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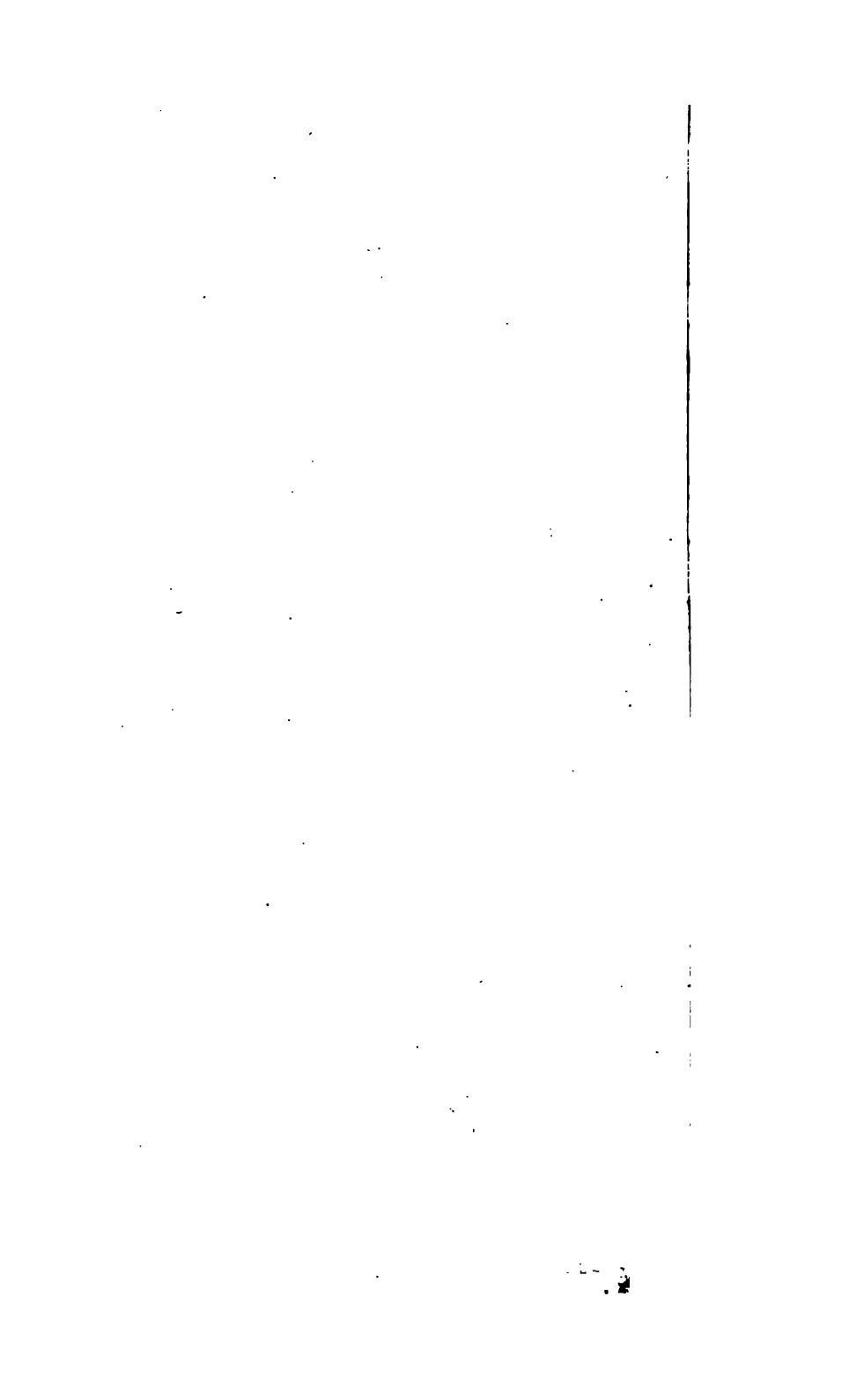
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From the Author

THE
SOLDIER'S FRIEND:
OR,
THE MEANS
OF
PRESERVING THE HEALTH
OF
MILITARY MEN;

ADDRESSED TO THE
OFFICERS OF THE BRITISH ARMY:

By WILLIAM BLAIR, A. M.
SURGEON OF THE LOCK HOSPITAL AND ASYLUM,
AND OF THE OLD FINSBURY DISPENSARY.

PRO REGE ET PATRIA.

LONDON:

PUBLISHED BY MR. LONGMAN; MESSRS. VERNOR
AND HOOD; MESSRS. MURRAY AND HIGHLEY;
AND MESSRS. HOOKHAM AND CARPENTER.
SOLD ALSO BY MESSRS. MUDIE & SONS, EDIN-
BURGH; AND BY ALL OTHER BOOKSELLERS.

1798.

PRICE HALF A CROWN,
Or, Four Guineas for Fifty Copies on common Paper.

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ville
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PREFATORY ADDRESS

TO THE

OFFICERS *of the* BRITISH ARMY.

GENTLEMEN,

THE peculiar exigency of the present times, and the unaccustomed hardships to which many thousands of my loyal countrymen may soon be exposed, must give weight and importance to the subject on which I have presumed to address you.

The following pages contain not only the result of my own

A 2

obser-

observation, and that of several experienced friends whom I have consulted; but, likewise, the substance of what has been written by the best Authors, on the means of preserving the health of military men. How much it is in your power, Gentlemen, to preserve the health of the British Soldiers, and at how comparatively small an expence this may be done, will scarcely be credited by those who have not maturely considered the subject.

The celebrated Sir John Pringle has observed, that “ although
“ most of the causes of diseases
“ can hardly be avoided in times
“ of actual service; yet as these
“ only dispose men to sickness,
“ and do not necessarily bring it
“ on, it is incumbent on those who
“ have the command, to make
“ such

“such provision as shall enable
“the foldier to withstand most
“of the hardships of a military
“life. It is almost needless to
“add,” says he, “that the pre-
“servatives from diseases are not
“to depend on medicines, nor on
“any thing which a foldier can
“have in his power to neglect.”
And Dr. Blane, who has written
ably on the diseases of seamen,
remarks, that “it could be made
“evident, in an economical and
“political point of view, indepen-
“dent of moral considerations,
“that the lives and health of men
“might be preserved at a much
“less expence than what is ne-
“cessary to repair the ravages of
“disease.”

Although the well-known hu-
manity and sympathizing regard
of British Officers to their fellow-
foldiers, afford the strongest

ground to believe, that every attempt of this nature will meet with due attention and patronage; the unexpected and pressing manner in which I have been called upon to prepare this Publication for the press, has left room for the exercise of your candour and indulgence. If, however, upon the whole, I shall have been instrumental in saving the life, or preserving the active services, of one faithful soldier, the short intervals of leisure I have been able to devote to this work, amid a variety of professional avocations, will be abundantly recompensed.

I have the honour to be,

&c. &c.

WILLIAM BLAIR.

March the 20th, 1798.

*Great Russell-street,
Bloomsbury-Square.*

THE

THE
SOLDIER'S FRIEND.

C H A P. I.

*On the Importance and Practicability of
preserving the Health of Soldiers.*

HEALTH is the main spring of action, both in public and private affairs; it is that, without which all our motions must languish, and our designs become vain. The health of an army must therefore be of equal importance with its existence; or rather, I should say, an army without health is a burthen to the state it was intended to serve.

In modern times the issue of a campaign is as frequently determined by sickness as by battle. In all European armies, more men are sacrificed by disease, than by the sword; and the laurel is at least

least as often withered on the hero's brow by the pestilential blast of contagion, as torn from it by the nervous arm of strength.

That sickness is not the necessary consequence of a military life, may be learned by adverting to the accounts remaining of the campaigns of the ancients. Among the circumstantial details of the operations of Julius Cæsar's well disciplined army, in a variety of climates and situations, no mention is made by that commander of any enterprize having been defeated by the sickness of his troops; nor does he notice any other sources of disease, than those which were the inevitable result of the casualties of war.

Hence may be deduced the possibility of preserving the health of armies; which, as we are informed by Xenophon's institutions of Cyrus, used to constitute a part of the regular education of every man intended to command.

A long sea voyage was formerly considered as one of the most unhealthy situations

situations to which a man could be exposed: but within these few years captain Cook has demonstrated, that by the institution and steady enforcement of proper prophylactic regulations, a ship's company may be conducted round the world, exposed to every variety of climate, and all the hardships and dangers of the sea, with a smaller proportional loss of men than would have happened in any other given situation.

By the introduction of his plans, the mortality which has prevailed in the navy of late years, is certainly much diminished: but regulations equally efficacious have not yet been adopted in the army. There is little room to doubt, however, that the power afforded by military discipline of enforcing regularity among the men, makes it possible to render the life of the soldier more healthy than that of persons in general, who are left to the freedom of their own will.

The preference justly given to old troops, arises chiefly from their being
always

10 IMPORTANCE OF HEALTH.

always fit for their duty. Experience teaches the veteran soldier a variety of matters relative to the preservation of his health, with which the fresh recruit must necessarily be unacquainted. As it is the business of no particular person to teach the young soldier this useful knowledge, he can only acquire it from experience; and too often he is cut off, before this slow, but necessary, course of education can be completed. It becomes therefore the duty of every officer, who has at heart the real good of the service in which he is engaged, and whose superior opportunities of information have made him acquainted with the conduct which it is proper to pursue, to enforce the practice of regulations which tend to obviate disease, as well as to exemplify a daily attention to them in his own conduct.

At the present period, when the necessary defence of the country calls numbers of men, accustomed to sedentary and domestic employments, as well as to
full

full living and indolent occupations, into the field; where they must submit to the hardships and fatigues of a military life; an attention to the preservation of their health becomes peculiarly requisite; that the effective strength and well being of the nation may be maintained as much as possible.

The accommodation of the troops at large, is provided for by the general staff; and that of the individual sick, by the superintendants of hospitals, and other subsidiary medical arrangements. In no service is the welfare of the sick or wounded soldier more an object of attention than in the British army. With these arrangements it is not at all the purpose of the author's plan to interfere. Its object is merely to furnish the soldier with that practical knowledge, which may prevent his name from appearing on the sick list; and at once preserve his own comfort, as well as the integrity of the army, of which he constitutes a part.

C H A P. II.

Of Food.

THE importance of proper diet to the preservation of health is universally acknowledged. The food of a soldier may be coarse, but it should be wholesome and abundant, such as the labourers of the country are accustomed to use. Such, and even better, the present pay of a British soldier, if properly laid out, can well afford.

The men ought to be divided into messes, and proper stoppages made from their pay to provide food. It should be the business of an officer to see that the meals be regular, sufficient, comfortably cooked, and that the men behave at them with due decorum. Great care ought to be taken to prevent the introduction of corrupted flesh, mouldy, or half baked bread, spoiled corn, mixed flour, and other nutritious substances of a bad quality. By the careless or mercenary

venary conduct of purveyors, a foundation has often been laid for the most destructive army diseases.

One meal of animal food is sufficient for a healthy man in twenty-four hours ; and it would be a good regulation, were that meal taken some hours later than is at present the custom in camp. Digestion is best performed while the body remains at rest. Military exercises should therefore be avoided as much as possible immediately after eating : And those men whose duty calls on them to watch during the night, would be better supported by a full, than an empty stomach. Besides, it would be accustoming a man at all times to what he must necessarily submit to when on a march : It is then impossible to have a comfortable meal, till the fatigue of the day be over, nor even till some hours after the tents are pitched, and the encampment formed.

A contract should be made with a butcher to supply the men with fresh

B

meat,

meat, principally beef, at a regulated price. When on a march the place of encampment should be indicated to him, as nearly as possible: He ought to be there with his cattle at the same time with the army; and when the tents are pitched, he should begin to kill, and cut up; so that as soon as the camp is formed and the fires lighted, every mess should be provided with its due allotment of animal food.

Nothing is so agreeable, and at the same time so wholesome to a soldier, after a fatiguing and perhaps a wet march, as some warm soup*. To boil the meat, is therefore the mode of cooking which ought to be most generally used in the army. Every effort should be made to procure vegetables to boil along with the meat. It is not necessary

* The use of broth or soup is particularly advantageous after great fatigue, because, on these occasions, the digestive organs are weakened and less liable to bear solid food than at other times.

to be very delicate in what are selected for this purpose. Besides the various kinds of cabbage, carrots, parsnips, onions and potatoes, which are universally approved of; when these cannot be procured, the wild or water cress, the brook lime, the scurvy grass, the wild sorrel, and lettuce, which are to be found in every field, make wholesome as well as agreeable additions to soup. When in a fixed camp, soldiers should be encouraged to cultivate various kinds of culinary vegetables, and especially potatoes.

It would add much also to the salubrity as well as the nutritious qualities of these soups were every mess to have a certain quantity of barley; or, which affords more substantial nourishment, decorticated oats, cut groats, dried peas, or rice, to add to their broth.

Fresh animal food should always be provided if possible. When circumstances, however, render it necessary to subsist on salted provisions, their injurious consequences may be considerably mitigated, by paying proper attention to their

goodness, as well as to the mode of dressing them.

If salted beef or pork be not spoiled, it appears, when cut into, of a faint red colour; on attempting to tear the fibres asunder, they resist with a certain degree of coherence; the fat is firm, and without any putrid smell. If, on the contrary, the meat appear black, or discoloured, when cut into; if the fibres readily break, when pulled asunder; or if the fat be flabby, or emit an unpleasant smell, it is no longer wholesome food.

Before salted meat is boiled, it should be carefully washed by repeated affusions of fresh water. The scum which arises to the surface during boiling should be diligently removed, and not permitted to be eaten. As a proof of the utility of attending to these circumstances, Dr. Marshall * cites the example of a new-raised regiment which, on its arrival at Gibraltar lost a number of men at a time when the garrison was very healthy;

* *Dissertatio inauguralis, de tuenda Salute Militum.*

which

which at last was found to be owing to their ignorance of the proper mode of preparing salted provisions.

Officers might always be provided with a quantity of portable soup: After fatigue they will find it very comfortable and refreshing, as well as easily and quickly prepared.

Ripe fruits, in moderate quantity, are wholesome; and, contrary to the vulgar prejudice, tend rather to prevent than to induce bowel complaints. Unripe fruits of all kinds, especially stone-fruits, are well known to be injurious, and should never be eaten raw. It was observed, during the late war in America, that the German regiments, who always *cooked or stewed* with their meat whatever fruits the country supplied, escaped many diseases, from which other troops engaged in the same service suffered severely. Their sour crout also preserves them from putrid complaints, and might be introduced with advantage into our armies.

In order to prevent the scurvy running through an army, during a season when

fresh meat and vegetables are likely to become scarce, it would be prudent to have a large quantity of potatoes, onions, garlick, mustard-seed, leeks, four-cROUT, pickled cabbages, &c. and sub-acid fruits, laid in store beforehand; these might be sold in moderate quantities, at a low rate, during winter: and all means should at the same time be used to oblige the men to form themselves into messes, and buy a little fresh meat daily: this would encourage the butchers to supply them, and make it worth their while to accommodate the army. Fermented malt-liquor, cyder, and acefcent drinks, are at no time more useful than when the scurvy is beginning to make its appearance. On such occasions the Russian quafs-loaves would be particularly wholesome and convenient for making small beer: these are composed of oat or rye meal mixed with ground malt; and when made into cakes with plain water, are baked and kept for use. They make a pleasant acidulous liquor by being infused twenty-four or thirty hours in boiling water,
with

with a little dried mint or any other aromatic herb.

During the prevalence of bloody-fluxes, the men ought to be allowed plenty of farinaceous vegetables, such as groats, barley, rice, potatoes, and dried peas; but they should refrain entirely from pot-herbs and green fruits *. On these occasions they should also use fat and mucilaginous broths, or sago, and a little astringent wine, if it can be procured good; but meagre wines and fermented liquors would be pernicious to their bowels.

It has been observed, that the custom of taking a light and warm breakfast, such as tea or coffee, renders men delicate and susceptible of taking cold. So much were the leaders of the French impressed with the truth of this remark, that I have been informed, by a gentleman who was himself an eye-witness of it in one of their northern armies, that

* No objection is to be made, however, against the free use of *ripe* fruit.

warm

warm breakfasts were strictly prohibited; every man was allowed half a pint of good wine, which he took with his bread: Few of these men were unfit for duty, although the weather was extremely severe. It may be laid down as a maxim, that a soldier will be able to bear fatigue and hardship with vigour and alacrity, in proportion as he lives well. In this country a pint of good porter, or sound ale, might be substituted for wine. A man should not be allowed to purchase this at pleasure: It should be regularly issued, and the expence stopped from his pay.

Cheap, excellent, and nourishing puddings, may be composed of boiled barley, molasses, and ginger.

Bread, emphatically termed the staff of life, is what the soldier chiefly depends on for support. While an army is in motion, it is difficult to furnish it in abundance, and with regularity. Various contrivances of moveable mills and camp-ovens to grind corn and prepare bread,

bread, are well known. It is the settled, but perhaps erroneous custom, to furnish armies with bread fermented and baked into the form of loaves. Biscuits would, on many occasions, be preferable: a loaf becomes mouldy and uneatable in a few days; biscuits will keep in perfection for months; bread baked amid the hurry and confusion of an army in motion, is apt to be improperly prepared, when it is very unwholesome: But the goodness of biscuit made at a distance, and with regularity, may always be depended on. The example of sailors, and of the Irish and Scotch, who hardly ever taste fermented bread, are satisfactory proofs of the wholesomeness of biscuit. In my opinion it produces a firmer flesh, supports exertion better, and is at least as digestible as bread: It has also the advantage of being less bulky, and therefore more portable. The hardness of biscuit is removed by soaking it in warm water: and the rawness or doughiness of bread

is

is in some measure corrected by toasting it. To officers, a small provision of what is termed rusk, will often be found agreeable and convenient.

The following observations on COOKERY are intimately connected with the subject of this chapter.

As man eats scarcely any food that has not undergone some kind of artificial preparation, which generally tends to render it more nourishing and palatable, the art of cookery, as productive of both those effects, certainly merits more attention than is commonly bestowed upon it. Since the celebrated Count Rumford has demonstrated how much the nutritious qualities of food may be augmented by due preparation, and how very small a sum of money, properly applied, is sufficient to support a man in perfect health and strength, it has indeed been an object of more general attention. The Count says, that "The Bavarian soldiers, who are the finest, stoutest,

stoutest, and strongest men in the world, and whose countenances shew the most evident marks of ruddy health, and perfect contentment, supports himself on less than *two-pence* sterling a-day: his whole pay, including the allowance of ammunition bread, amounts to no more than *two-pence three farthings* per day, of which he saves at least *two-fifths*."

Although this gentleman had served in various armies, he alleges that "*there is no soldier in Europe whose situation is more comfortable* THAN THAT OF THE "*BAVARIAN.*" Such are the effects of economy and skill in cooking, and of wise regulations in laying out money.

It was once my design to have inserted in this chapter several of the plans of preparing food, lately introduced in this country; which tend at once to render it more palatable, and more nourishing, as well as greatly to diminish expence. This purpose, however, I have at present laid aside, lest I should exceed the intended limits of my publication, and
step

step a little out of the tract which some persons would prescribe to a medical writer. I shall content myself therefore with laying before my readers a few hints relative to the general principles on which the comfort and economy of the soldier's diet depends, and leave to individuals the task of applying them to their peculiar tastes and circumstances.

“ All those who have been conversant in military affairs,” says Count Rumford, “ must have had frequent opportunities of observing the striking difference there is, even in the appearance of the men, between regiments in which messes are established, and food is regularly provided under the care and inspection of the officers ; and others, in which the soldiers are left individually to shift for themselves. And the difference which may be observed between soldiers who live in messes, and are regularly fed, and others who are not, is not confined merely to their external appearance : the
influ-

influence of these causes extends much farther; and even the *moral character* of the men is affected by them*.

The subsequent observations of Mr. Somerville are too important to be omitted.

“As soon as a regiment has taken the field; the soldiers composing it should be divided into regular messes, consisting of not more than five or six men each. The usual way of dividing them into messes of *ten, twelve*, or even sixteen men each, is liable to many objections. It is seldom, indeed; that a sufficient degree of harmony prevails among so many men to render their mess comfortable; to which may be added, that a large mess is always productive of less comfort, and more dirt, than a small one: when these circumstances are maturely considered, the balance will be

* On this interesting subject, the economical soldier will be well repaid for perusing Count Rumford's instructive and masterly essays. *Nil tetigit quod non ornavit.*

found to lean considerably to the side of small messes."

"In all cases, where butchers meat constitutes a bulky or essential part of the food of the privates, whether in camp or elsewhere, they should be obliged to boil, and make soup, or barley broth of it: and for that purpose, barley should make a part of the stores in every camp; an article, which at the same time that it is cheap and easily obtained, forms a rich and valuable nourishment."

"Our reason for proposing to boil, and make soup of butchers meat is, that, when dressed in this manner, it is not only more easily digested than that which is roasted, but the soup or broth, made from the boiling, forms a valuable and nourishing article of food; which, under proper management, makes the allowance go much farther than it would otherwise do."

"When fresh fish constitutes the principal part of the food of soldiers, especially the different kinds of white fish,
it

it should always be made into fish and sauce; as, when dressed in that way, it is not only a very agreeable food, but the *sauce*, or soup, made by the boiling, adds greatly to its value."

"Where either salt-fish or salmon is used, however, it should be boiled in sea-water, which not only saves the expence of salt, but also renders the food more agreeable; even very old salt beef is improved, and rendered more palatable, by first steeping, and afterwards boiling, it in salt water."

"We have been more particular upon the article of boiling, and making soup in camps, not only from a conviction of its forming a better food, than does the ordinary way in which fish and butchers meat are dressed amongst soldiers, but also from a certainty that something considerable is gained by the practice."

"It is surprising to see the aversion which the generality of soldiers have to the boiling of meat, or the conversion of it into broth or soup; when left to

themselves, they always prefer roasting both their fish and butchers meat, a practice which ought to be discouraged; as roasted meat not only forms a heavier meal than that which is boiled, but is at the same time more expensive and unprofitable."

"When soup or broth is properly made, the men are able to dine almost entirely upon that dish, with the addition of bread, and, perhaps, a small part of the meat. In that way a considerable part of the butchers meat will remain to be eaten cold at the next meal; whereas, had the same quantity of meat been roasted, the whole would have been eaten up at once, the men at the same time being worse served, and nothing remaining for a future meal *."

* Memoir on Medical Arrangements, by Robert Sommerville.

C H A P. III.

Of Drink.

THE limited pay of a private soldier appears a sufficient security against his injuring himself by indulgence in the use of intoxicating liquors: such however is the propensity of mankind to inebriety, and so totally is prudence obliterated by indulgence in this vice, that men will often spend what should have supported them for days, in producing one fit of drunkenness. Intoxication not only renders a man unfit for the duties of a soldier while he is under its influence, but it undermines his constitution, diminishes his strength of body and firmness of mind, and renders him more susceptible of the influence of all the exciting causes of disease.

It would be well, were the promiscuous sale of distilled spirits to soldiers wholly prohibited: In hot weather they are peculiarly injurious. The mortality of our troops in the West Indies, has been attributed, by every medical writer, as much to the intemperate use of spirits, as to the effects of the climate. It is not denied, that in some situations they may be necessary; but that necessity is to be judged of by the physician or commanding officer.

The ancients preserved the health of their troops by the use of vinegar. It was the only liquor that accompanied their armies. And no doubt its use tended much to prevent putrid complaints. The same purpose might surely be answered by it now. And were syrup of vinegar, or cream of tartar and sugar, substituted, they would, mixed with water, form a very pleasant, as well as a wholesome, beverage.

The drink made of Russia quass-loaves has been noticed in the preceding chapter.

Nothing

Nothing more enables a soldier to endure fatigue, and to resist contagion, than the use of good fermented liquor and old port wine. In this country there should be an abundant supply of porter, ale, and spruce beer, in every camp. Considering the increased expence of a soldier in sickness, it might be well worth the attention of government to issue to every man, when in the field, a certain quantity, suppose half a pint, of old port-wine, as a preventive of disease. This might be done at a very moderate expence, and compensated by adequate stoppages of pay, during the time it was requisite. It would also tend to wear the military from the pernicious habits of dram-drinking.

In cold damp weather, when a little spirit might be allowable and useful, soldiers would find a tolerable substitute in a draught of hot water with a teaspoonful of fresh-grated ginger in it. This, in common cases, would be of equal utility with spirituous liquors, and
does

does not possess the power of intoxicating. It should be remembered, that *hot* water or tea gives a temporary degree of tone to the stomach; but if it be drank lukewarm, it relaxes and weakens that organ.

Perhaps it may be useful to soldiers of certain constitutions to know how they can make a cheap sort of drink, suited to their peculiar cases. Persons who are of a hot constitution, and inclined to be costive or feverish, will find advantage from a liquor made by infusing half a pound of bruised raisins in three quarts of boiling water; or, instead of the raisins, a quantity of dried currants, liquorice root, figs, prunes, or ripe apples. Those who are apt to be flatulent, and to have loose bowels, should use an infusion of dried pennyroyal, peppermint, or balm, occasionally; or they may drink freely of hot ginger tea when their complaints are most troublesome. Persons of a weak stomach and bad digestion, beside the last-mentioned article, would

would find benefit in taking half a pint of strong forge-water two or three times a day.

Water is the basis of all liquors, the only real allayer of thirst, the sole drink intended by nature for the use of animals. To have it pure and in abundance, is of infinite importance to the health of mankind in every situation. Its purity is judged of by its being colourless and void of taste or smell; by its lightness, its boiling vegetables tender, and dissolving soap with facility. Every effort should be made to procure water possessed of these qualities.

There are various methods also of correcting its defects. If hard, the addition of a little pearl-ash, salt of tartar, or salt of wormwood, will give it the properties of soft water: If muddy, the addition of a few grains of alum will cause the impurities to subside: Or it may be filtrated by forcing a piece of sponge or doubled flannel tight into any funnel-shaped vessel, a horn for example, and letting the water percolate through it; or by passing
it

it through a barrel of clean sand*. An ingenious mode of clearing a muddy stream for the use of an army, is suggested in a late French publication. (*See the cut at the last page.*) — Brackish water, that is, such as has a certain admixture of sea-water, is peculiarly unwholesome, and ought to be avoided if possible. To mention the impropriety of using stagnant or putrid water is almost superfluous: but if this be indispensably necessary on any occasion, a small quantity of quick-lime, or some acid, being added, will, in a great measure, correct its ill tendency. Where there is room to suspect the eggs of insects, or little animalcules in water, it should always be boiled before it be drank; although it is questioned by some, whether this be a good practice in common.

* When there are no rivulets near a camp, and the water is supplied by wells, if it should happen to be turbid, it may be made clear by digging deep pits, covering the bottom and sides with large stones, and over these a layer of clean sand, gravel, or chalk.

Water is not only injurious as possessing noxious qualities, but also as being imprudently used. Innumerable are the examples of death being the immediate consequence of taking a copious draught of cold water when the body was heated by exercise. To such accidents no class of men are more liable than the military. After a hot and toilsome march, the mouth parched and full of dust, and the limbs fatigued with exertion, it requires no small effort of steadiness and resolution to withstand the allurements of a refreshing stream: but let it be remembered that the draught, in such a state, endangers life. To this imprudence the greatest conqueror the world ever beheld nearly fell a sacrifice. Alexander, heated and fatigued, could not resist the temptation of plunging into the cool waves of the Cydnus: For the same effects take place whether the over-heated body be plunged into a cold fluid, or the water be taken into the stomach.

The

The symptoms, the cure, and the prevention of the disorder, produced by drinking cold fluids when over-heated, are so well described by Dr. Rush, of Philadelphia, that I cannot do better than quote his own words.

“ In a few minutes after the patient has swallowed the water he is affected with a dimness of sight, he staggers in attempting to walk, and, unless supported, falls to the ground ; he breathes with difficulty ; a rattling is heard in his throat ; his nostrils and cheeks expand and contract in every act of respiration ; his face appears suffused with blood, and of a livid colour ; his extremities become cold, and his pulse imperceptible ; and, unless relief is speedily obtained, the disorder terminates in death in four or five minutes.”

“ Punch, beer, or even grog, drank under the same circumstances as cold water, have all been known to produce the same morbid and fatal effects.”

“ I know

“ I know of but one certain remedy for the disease, and that is *liquid laudanum* *. The doses of it, as in other cases of spasm, should be proportioned to the violence of the disease. From a tea-spoonful to a table-spoonful has been given in some instances, before relief has been obtained. Where the powers of life appear to be suddenly suspended, the same remedies should be used, which have been so successfully employed in recovering persons supposed to be dead from drowning †.”

“ If neither the voice of reason, nor the fatal examples of those who have perished from this cause, are sufficient to produce restraint in drinking a large quantity of cold liquor when the body is pre-

* Liquid laudanum, i. e. tincture of opium, is too powerful a remedy to be entrusted to the common soldier's management; and ought never to be given, but by the hand of a medical man, or some discreet person who knows what he administers.

† See the chapter on Casualties.

ternaturally heated, take the following precautions :—

1. “ Grasp the vessel out of which you are about to drink for a minute or longer with both your hands : this will abstract a portion of heat from the body, and at the same time impart it to the cold liquor.”

2. “ If you are not furnished with a cup, and are obliged to drink by bringing your mouth in contact with a stream which issues from a pump, or a spring, always wash your hands and face, previously to your drinking, with a little of the cold water : by receiving the shock of the water first upon those parts of the body, a portion of the heat is conveyed away, and the vital parts are thereby defended from the action of the cold.”

C H A P. IV,

Of Clothing.

CLOTHING ought always to be suited to climate and to seasons. In Europe, the general intention of clothes is to guard against cold. In effecting this purpose, care however should be taken, that the body be not as much injured by pressure, as benefited by warmth. In no part of the conduct of life, have mankind more generally sacrificed utility and convenience, to vanity and parade. Nor is this observation entirely unfounded, even when applied to the military.

The garb of the Ancient Romans was warlike, because it originated at a time when the sole business of the nation was war. To the most vulnerable parts of the body is afforded protection, but

gave free scope to the action of all the muscles and articulations, on which agility depends.

The present military dress, on the contrary, is a modification of the garments of peace. To this unnatural origin, many of its imperfections must, doubtless, be attributed: The same dress which is convenient for the purposes of civil life, can never suit the exertions and exposure that are the necessary concomitants of a state of warfare.

The stiff bandage that surrounds the neck, and the tight ligatures that constrain the articulations of the loins and of the knees, should if possible be avoided. Freedom of respiration is no doubt also impeded by the pressure of the belts crossing upon the chest. In an active campaign, much often depends on rapidity of movement, and promptitude of exertion: but if a certain quantity of the strength of each individual be exhausted in counteracting the pressure on his muscles, or in sustaining a perhaps
unne-

unnecessary burthen, the sum of the whole which might otherwise be employed in supporting unavoidable fatigue, must be considerably diminished.

The prodigious length of marches that the natives of America make in their hunting parties, and their warlike excursions, can only be accounted for by their freedom from the pressure of clothes, or the incumbrance of baggage.—Hence we may deduce the propriety of forming the soldiers' habiliments so as to constrain the body as little as possible; and of avoiding the necessity of carrying more extra baggage than is absolutely necessary; circumstances, at present perhaps too little attended to.

The substance of which the military dress is formed, merits also some attention. It surely might be made of something more capable of resisting moisture, than its present spongy texture.—The hat might be painted within side, or varnished on the out: It should also possess a firmer hold of the head. At present, it is

so prone to absorb moisture, that it will acquire an almost incredible encrease of weight during a shower of rain. The soldier does not always possess the means of drying it, and the continued application of a cold and damp substance to the head cannot fail to be productive of disease : similar evils must result from the wet paste with which the soldiers' hair-powder is stuck on. I have myself seen it converted into ice. One use of the hair is, no doubt, to preserve a certain equality of temperature around the head : By converting it from a loose and spongy substance, into a solid mass, by means of paste and powder, this intention of nature is directly counteracted. Whatever may be the necessity of wearing powder on the parade ; might it not be with propriety dispensed with in the field ? Its disuse would add to the cleanliness as well as the comfort of the men : The truth of this suggestion, as I have been informed by an eye-witness, was strongly illustrated at the time, when,

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by order of prince Potemkin, that article of dress was laid aside in the Russian army.

Blue shirts, such as are worn by sailors, are, I think, preferable to white. There is something in the indigo, with which they are dyed, that is said to be inimical to vermin. On account of their colour they would require less frequent washing than those now in use. By seafaring people they are universally considered as tending to preserve their strength, as well as health. But, at any rate, they might with propriety be adopted as night-shirts.

A foldier is frequently much incommoded by his stockings. The part within the shoe is apt to be wet, dirty, or full of holes; by which the feet are irritated, and sometimes blistered*: They
ought,

* During the late hard winters many benevolent persons have given away great quantities of a peculiarly cheap and warm stocking to the poor in their neighbourhood. Perhaps benevolence could not be better directed than in furnishing the troops with an extra-allowance of the same article,

ought, therefore, to be washed and dried at every convenient opportunity. It has lately been proposed, by a French writer on the health of soldiers *, to lay aside the use of stockings altogether, and to substitute in their place wide pantaloons extending to the shoe, and fastened under it with a strap: But, on the propriety of such innovations, I shall forbear giving any opinion.

A man accustomed to wear shoes is helpless, and totally incapable of action when deprived of them. Every effort should therefore be made to render military shoes as strong and durable as possible.

Several very ingenious modes of fortifying shoes, and rendering them waterproof, have been suggested by Mr. R.

article, if the severity of the season require it. They are knit of Shetland wool, and sold at ninepence a pair by Fisher in Bond-street, under the patronage of Sir John Sinclair.

* See *La Santé de Mars*, par Dr. Jourdan le Coite, Paris, 1790.

Stommer-

Sommerville, surgeon of the Caithness fencibles. That which he most approves of, "consists in painting the whole of the leather of which they are made, on the wrong side, with a coat of thin oil paint. This will enter the pores of the leather, and fill them so completely, that no moisture will penetrate, and will at the same time make the shoes last much longer."

"To do this effectually, the leather, both for the *soles* and *uppers*, should be painted on the wrong side, and completely dried before it is cut into shapes; and after the shoes are made, the seams and outsides of the soles should also receive a coat of paint. The advantages derived from japanning and painting every kind of leather-work that is much exposed to the weather, is well known, and experience proves, that when defended in that way, it not only repels moisture, but lasts double the time. The expence of painting the whole of the leather of a pair of shoes in this manner,

ner, will not exceed *two-pence* sterling. In order to derive the whole benefit from painting the upper part of the shoe, the leather should be as free from grease as possible for that purpose; the skins intended to be used in that way, should be carefully painted on the wrong side, before any oil is worked into them; after they are completely dry, the oil and blacking may be then applied: A skin so prepared will be found to resist every kind of moisture. This caution of painting, while the leather is free from oil, is very essential; for, if the oil be applied first, the paint will neither dry nor enter into the pores of the leather."

Military shoes ought to be roomy, and to rise high on the ankle: they might also be strengthened at the toe and heel by thin plates of iron; or the soles might be studded with nails, as the English peasants wear them. Were it possible to make them last during a campaign, a man would not be under the necessity of
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taking a pair at random from a magazine; which, from their not fitting, tend often to cripple him and obstruct the circulation in his feet.

The advantage of easy shoes was strikingly illustrated by some of our regiments who were in Canada during the late American war. Of those men who were obliged to substitute such shoes as are used by the inhabitants, formed of a piece of hide dressed with the hair, and simply tied on the feet by the corners, not one was affected by the cold; while many, who wore the usual regimental shoes, lost their toes, and even their feet, in consequence of their being frost-bitten.

Another advantage attending large shoes is, that they admit of the introduction of some hay or straw. The utility of doing this may be learned from the practice of the waggoners, who make such long journies on foot. Nothing refreshes the feet more, nor enables them better to bear fatigue: But it ought to be

be renewed at every convenient opportunity.

Formerly it was the practice of those who were in the habit of using violent exercise, as running footmen, &c. to wear round the loins a broad elastic belt; which, by supporting the contents of the Abdomen, in some measure prevented ruptures; and certainly tended to favour agility, by giving a firmness and point of support to the long muscles of the belly. Something of the same kind might, perhaps, with propriety form part of the soldiers' dress at present. It might be so contrived also, as to relieve the shoulders and chest from part of the weight of the side-arms and cartouch-box; and would, on emergencies, be useful for the temporary deligation of wounds. But to adopt such a change, would be incompatible with the present taste for military decoration. Any hint, however, that can tend to diminish the necessary quantity of baggage, to facilitate

elaborate dressing and undressing, by simplifying his attire, or in any way add to the comfort of the soldier, ought not to be withheld.

During a campaign the cavalry are usually more healthy than the infantry: One reason assigned for this has been, that they sleep more comfortably, from having their cloaks to cover them. A light blanket, which might be rolled up and carried on the knapsack of the foot-soldier, would add considerably to his health, and but little to his baggage. The regiment called the Scotch Fuzi-leers formerly carried an appendage of this kind, termed a *maud*. It is proposed by Dr. LE COINTE, author of the *SANTE' DE MARS*, that a light blanket, sufficient to cover two men, should be divided transversely, of which each should carry an half, to be joined together by buttons and loops fastened to the edges, when required for use.

Those regiments, part of whose dress it is to wear *spatterdashies* or *gaters*, are

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less

less liable to sores than those who are without any such defence for the legs. According to Mr. Sommerville, the best substance to form them of, is linen varnished and painted.

The wool of which soldiers clothes are made should be dressed in oil. The expence would be trifling, and it would tend to make them throw off moisture, instead of absorbing it as they do at present. To interline the sleeves and shoulders of their coats with oil-cloth, has been proposed with the same intention.

Dr. Moseley, and other writers on the diseases of troops in tropical climates, have given the most irrefragable proofs, that in these situations nothing tends more to preserve health than wearing woollen garments next the skin. In a versatile clime, like that of Great Britain, it has been advised that we rather endeavour, by a cautious and prudent exposure, to enure the body to those alterations of temperature which we cannot obviate, than to en-

courage

courage a preternatural flow of perspiration by artificial warmth, or to enervate the body by the constant irritation of flannel: But, if men are obliged to keep the field till an advanced season, woollen clothing will be found the best defence against the cold of autumnal nights, or the bad consequences of encamping in damp situations; and it cannot then be dispensed with. Flannel drawers and under waistcoats are preferable to linings of the same material.

Those to whom long-continued habits of indulgence would render any attempt to recover the vigour requisite to withstand the alterations of weather, a perilous experiment, but whose patriotism may imperiously call them at the present juncture to the defence of their country, will find, in the manufacture termed *fleecy bosiery*, an adequate defence against the utmost rigour of the seasons: Its porous texture renders it much warmer, and at the same time lighter than flannel; and being highly elastic, it readily

yields to every motion of the limbs, while for the same reason it affords a gently tonic support to the whole surface of the body.

Dr. Donald Monro, who is a strenuous advocate for warm garments, says, that a woolen stock or neckcloth, with a flannel waistcoat, and worsted gloves, may be purchased for about half-a-crown per man; and would contribute to preserve the lives of many: Whereas, the expence of medicines and recruiting will greatly exceed the price of these articles. Dr. Blane and Captain Caldwell have likewise insisted on the advantage of warm clothing, considered in an economical point of view: Prudence, humanity, and sound policy, therefore, conspire to recommend the use of woolen garments for British soldiers, at least during an encampment.

C H A P. V.

Of Weather.

THE employment of a soldier obliges him to be abroad at all seasons. Habit therefore inures him to many changes which to others would be fatal : but there are precautions to be taken against unhealthy seasons, or situations, of which it behoves him not to be ignorant. The effects produced by the weather on living bodies, principally depend on its degree of heat or cold. Experience, however, has shewn that health may be preserved even during considerable extremities of heat or of cold, provided the weather be dry. The combination of heat or cold, with moisture, is the chief source of disease.

During great degrees of heat, officers should endeavour to get the marches or

military manœuvres over before noon. Where that is impossible, men will find considerable protection from the rays of the sun by introducing a folded handkerchief between the hat and head. The same contrivance placed between the shoulders, or upon the breast, produces a great degree of coolness, not only by absorbing the perspiration, but by producing a sort of cavity through which the air circulates freely ; and it is a much safer practice than throwing open the breast.

When over-heated, it is extremely dangerous to lie down in the shade ; and still more so to drink largely of cold water, as has been already explained. Those men stand heat the best, who drink the least. Thirst may often be allayed by washing the mouth with a little water, especially if it be acidulated, without swallowing any of it. But above all, let every man who values his health avoid drinking ardent spirits when heated ; that is adding fuel to fire, and is apt to produce

duce the most dangerous inflammatory complaints. Sometimes, indeed, if a person passes from extreme heat and fatigue to absolute rest, which ought always to be avoided, a small quantity of spirits taken into the stomach will prevent the bad consequences which might arise from cooling too suddenly.

In this country the heat of the sun is rarely so powerful as to produce what the French term a *coup de soleil*, or stroke of the sun ; which in warmer climates is the frequent effect of great exertion during intense heat. Even in England some degree of drowsiness and headach will occasionally be produced by these causes ; especially if the person, exposed to them, be in a state of intoxication

The remedies against these complaints, are bleeding, immersing the feet and legs in warm water, and the application of cloths dipped in cold water to the head.

It is also extremely dangerous to sleep exposed to the noon-day rays of a scorching sun.

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The air of the night, after a very hot day, is often agreeably cold. It is, however, very dangerous to yield to the pleasing freshness which is produced by being exposed to it. Those who are obliged to be abroad should use some additional clothing, at least a flannel waistcoat; and even fortify themselves by a small quantity of ardent spirits, or a draught of strong ginger-tea.

In this country the bad effects of cold, especially conjoined with moisture, are more to be dreaded than those of heat. How far they may be counteracted by warm clothing, has been detailed in its proper place. Winter expeditions are not to be dreaded as unhealthy, if men be provided with stout shoes, warm quarters, and plenty of provisions. Moderate degrees of cold may be counteracted by exercise. The body should be kept constantly in motion, and all inclination to stand still or to sleep, steadfastly resisted. For, in this case sleep would prove the harbinger of death.

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Not a more dangerous vulgar error exists, than the notion that the habitual use of spirituous liquors prevents the effects of cold; on the contrary, the truth is, that those who drink most frequently of them, are soonest affected by severe weather. The daily use of these liquors tends greatly to emaciate and waste the strength of the body; and it may with truth be asserted, that of those who fall victims to the severity of cold in this country, one half at least have accelerated its effects by the abuse of ardent spirits.

If a man, or any part of his body, be benumbed or frost-bitten by extreme cold, it is highly dangerous to expose him suddenly to the heat of a fire: the certain consequence of such indiscretion, is general or partial death. Life is either extinguished by the sudden transition, or some part becomes livid and mortifies. The safest way is to rub the part affected with snow, or to immerse it in water so cold as nearly to freeze, till its natural heat and colour be gradually

gradually restored: small cupfulls of strong nourishing soup, but not very hot, may be given from time to time internally*. This is the mode used and sanctioned, by long experience, in Russia; where these accidents are so frequent, that it is a common act of politeness to warn a man of his nose, ear, or chin, being frost-bitten, of which he himself is insensible, although the change of colour immediately indicates it to a spectator.

For the defence of coasts and landing-places, it is frequently necessary to form a camp on levels, in the neighbourhood of the sea, or on the low and marshy banks of rivers. Such situations are always inimical to the health of troops. A man should be careful not to expose himself to the air of these places with an

* Dr. Lind, in his Treatise upon Diseases of Seamen, very properly condemns the use of strong spirituous liquors under these circumstances; as being often fatal in their effects, and that instantaneously.

empty stomach. If he be obliged to go out early in the morning, let him chew a little tobacco, or a piece of ginger; or he may take a small glass of pure spirits, the salutary effects of which will be augmented by infusing therein some peruvian bark, colombo root, orange-peel, tanfy, or any aromatic bitter: It is in such situations only, that the use of spirits can be reckoned wholesome. But even then, their good effects will be lost on those who have taken them habitually for a considerable time.

Long-continued rains will produce, in situations naturally dry, the same bad consequences that result from those which are usually moist, and of course the same precautions become requisite to guard against them. The best preventive against the effects of temporary wetting with rain, is to strip entirely; and, after having rubbed the skin dry, to wash the whole surface of the body with pure spirits. This practice is successfully used by the inhabitants of the
West

West India islands, where to be soaked with rain is often attended with fatal consequences. The effects of partial wetting, suppose of the shoulders or legs, ought to be remedied by a partial treatment of the same kind; for the strongest constitution is not at all times proof against the chilling tendency of damp clothes.

During rainy seasons, while an army is in a fixed position, the tents might be thatched, after the manner recommended by Prince Ferdinand of Germany: And little huts above ground, might be erected for the Officers. But pits sunk under the surface of the earth, are always unwholesome and damp.

C H A P. VI.

Of Exercise.

“ I SHALL endeavour, in the next place, to point out some of those benefits, which may be derived to health, from habits of daily exercise. This is an object of the greatest importance, but unfortunately it is an object very little attended to in the British army. It appears, indeed, to be little regarded in most of the armies of modern Europe. I should incur a charge of presumption, perhaps of ignorance, did I attempt to point out the exercises which are the most proper for the forming of soldiers. Those only which contribute to the preservation of health, belong to this place. I may, however, remark, that the essential part of the art of disciplining troops, consists in imparting sentiments of heroism and

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virtue to the minds of the men, in improving the exertions of their limbs, and in acquiring knowledge of the correspondence of their exertions when called into action. If I durst take so great a liberty, I should be inclined to say, that our ordinary exercises are flat and insipid in their nature; that they occasion no exertions, and excite no emulation: they neither improve the active powers of the body, nor inure the soldier to bear fatigue and hardship. The Romans, who owed more to the discipline of their armies than any nation on earth, were extremely rigorous and persevering in their exercises. They practised their soldiers in every species of service that might occur; so that nothing at any time happened with which they were unacquainted. Actual war was in reality a time of relaxation and amusement to the soldiers of this warlike people, who appear to have been trained for the service of the field, as horses are for hunting or the course. The Romans were not only
sensible

sensible of the advantages which those habits of exercise procured them in action; but had also the penetration to discover, that they were eminently serviceable in the preservation of health. The words of Vegetius are remarkable: *Rei militaris periti, plus quotidiana armorum exercitia ad sanitatem militum putaverunt prodesse, quam medicos.* I made the same remark during the time that I attended a regiment in America, without knowing that it was supported by so great authority. I observed, when the men were in the field, sometimes even complaining of hardship and fatigue, that few were reported in the list of the sick; when removed to quarters, or encamped for any length of time in one place, the hospital was observed to fill rapidly. This observation was uniformly verified, as often as the experiment was repeated."

"An idea has been long entertained, that the European constitution cannot bear hard labour in the fun, or perform

military exercises with safety, in the hot climates of the West Indies. Hence a plan has been suggested, and in some degree, I believe, adopted, that regiments serving in those countries be furnished with people of colour to do the drudgery of the soldiers. But this appears to be an innovation which ought to be admitted with extreme caution. It will evidently serve to increase sloth and idleness; and unless the persons of colour can perform the military duty in the field, their services will go but a short way in preserving the health of the troops. A soldier, notwithstanding he may have received the king's pay for twenty years or more, remains in some degree a *tyro* till his body has been inured to fatigue, and prepared to bear, without danger, the effects of the climate in which he may be destined to serve. This is a part of the military discipline, indeed, no less necessary than a knowledge of the use of arms; and though it is a part of it, difficult to be accom-

accomplished, there is still room to believe that it may be effected, even in the so much dreaded climate of Jamaica. It is a common opinion, that the fatigues of an active campaign in the West Indies, would be fatal to the health of the troops; but the opinion has been assumed without fair trial. The exertions of a single day have often been hurtful. This was frequently the case in America, where the soldiers had remained for some time in a state of rest; but bad effects from the greatest exertions, in the hottest weather of summer, were extremely rare in that country, after the campaign had been continued for a few days. But that I may not seem to rest an opinion of so great importance on a bare analogy, I shall beg leave to observe, that young European planters undergo greater fatigues, and remain daily exposed for a longer time to the heat of the sun, than would fall to the lot of soldiers in the actual service of the field. I might likewise further confirm the opi-

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nion,

nion, that an Englishman is capable of sustaining fatigue in the West-Indies, equally well with the African, or the native of the islands, by mentioning a journey which I once performed myself. I lived about four years in Jamaica, during the greatest part of which I believed that death, or dangerous sickness, would be the consequence of walking any distance on foot; but I afterwards learnt that this apprehension was vain. I left Savanna la Mar in the year 1778, with the design of going to America; but having embarked in a hurry, and forgot a material piece of business, I found a necessity of being put ashore, after having been two or three days at sea. I was landed at Port Morant, in St. Thomas's in the East, from which I went to Kingston by water, where learning that there was a vessel at Lucca, in the Western extremity of the island, nearly ready to sail for New-York, I set out directly, that I might not lose the opportunity of a passage. My finances
not

not being in a condition to furnish horses, I left Kingston on foot, about twelve o'clock, and accomplished a journey before it was dark of eighteen miles. I did not find I was materially fatigued, and still persisting in my resolution, travelled a hundred miles more in the space of the three following days. It may not be improper to remark, that I carried baggage with me, equal in weight to the common knapsack of a soldier. I do not know that so great a journey was ever performed on foot by an European, in any of the islands of the West-Indies; not so much, I am convinced, from inability, as from idea that such exertions are dangerous. But as it appears from the above fact, that the European constitution is capable of sustaining common military fatigues in the climate of Jamaica; so I may add that it ought to be a principal object of military discipline, that soldiers be practised with frequent marching, and the performance of other exercises of exertion,

tion, if it is actually meant that they should be useful in times of war. The fate of battles, I might observe, depends oftener on rapid movements, in which the activity of the limbs is concerned, than on the expert handling of arms, which is acquired by the practice of the manual. I observed formerly, that abstemiousness and temperance were among the best means of preserving health, or obviating the danger of the diseases to which troops are liable on their first arrival in hot climates; but the rules of temperance are little regarded by English soldiers at any time, and almost constantly transgressed wherever extraordinary labour is required of them. To such causes of excess, joined with the great heat of the sun, we may perhaps impute many of the bad effects of marching, or of moderate fatigue in the West-Indies. In the journey which I have just now mentioned, I probably owe my escape from sickness to temperance and spare living, I breakfasted on
tea

tea about ten in the morning, and made a meal of bread and fallad, after I had taken up my lodging for the night. If I had occasion to drink through the day, water or lemonade was my beverage. In the year 1782, I walked between Edinburgh and London in eleven days and a half; and invariably observed, that I performed my journey with greater ease and pleasure, where I drank water, and only breakfasted and supped, than when I made three meals a-day, and drank wine, ale, or porter. In the following summer I carried the experiment farther. During the months of July and August, I travelled in some of the hottest provinces of France. I generally walked from twenty-five to thirty miles a-day, in a degree of heat less supportable than the common heat of Jamaica, without suffering any material inconvenience. I breakfasted about ten o'clock on tea, coffee or syrup of vinegar, made a slender meal of animal food in the evening, with a great proportion of fallad

salad and vegetables; but never drank the weakest wines without dilution. The great refreshment which I found from syrup of vinegar and water, convinces me, that the Romans had good cause for making vinegar such an essential article among the provisions of their armies. —The state of luxury and our depraved appetites, unfortunately do not suffer it to be adopted by the English. I ought perhaps to make an apology to the reader for introducing my own experience on the present occasion: but I must add, that I have only done it, because it enables me to speak from conviction, that an English soldier may be rendered capable of going through the severest military service in the hottest islands of the West-Indies, and that temperance will be one of the best means of enabling him to perform his duty with safety and effect."

"I mentioned before, that the military exercise of the English army is ill calculated to excite a spirit of emulation
among

among the men. It is in fact considered only as a piece of drudgery, in which there are few who have any ambition to excel. It has little effect in improving the activity of the limbs, or hardening the constitution of the body ; so that it may better sustain hardship and fatigue. But feeble as its effects are in the view of increasing exertion, or preserving health, it is generally almost entirely discontinued when troops arrive in hot climates ; a practice, which has arisen from a superficial and mistaken view of the subject. Sloth and indolence are the bane of a soldier in every climate ; exercise and action are the greatest preservatives of discipline and of health. It would be reckoned presumption in me, and it does not belong to this place to point out those exercises which might be proper for the forming of soldiers. But every one knows that walking, running, wrestling, leaping, fencing and swimming, are often called into actual use in the practice of war. These are such exercises

ercises likewise as excite emulation, and are practised with pleasure by the individual. They harden the body, increase the powers of the limbs; and by furnishing the officer with a view of the different degrees of activity, may often enable him to place his men in the ranks, according to the uniformity of their exertions; a more useful mode of arrangement in time of action, than uniformity of exterior form. I may add in this place, that sea-bathing will be extremely useful in most cases, in increasing the vigour and preserving the health of soldiers serving in warm climates. There no doubt will occur many cases, in which it is improper; but in general, it may be employed with great benefit. I chiefly impute it to this cause, that I did not experience a single day's indisposition, during the four years that I lived in Jamaica*."

The above opinion is also supported by the authority of Sir John Pringle, who

* Dr. Jackson on the Fevers of Jamaica.

observes,

observes, "Although a soldier is occasion-
 ally liable to great fatigue, the most
 frequent errors of people of that rank,
 are on the side of *rest*." Dr. Monro
 also remarks, that "Soldiers left to them-
 selves are very subject to diseases when
 they come into quarters after an ac-
 tive campaign, by leading too indo-
 lent a life." And Vegetius relates,
 that "the Romans exercised their men
 daily in the *Campus Martius* when it
 was fair weather, and under cover
 when it rained or snowed." Lib. 3.
 c. 1. § 2.

If daily exertions in the open air ren-
 der men hearty and robust, habits of in-
 dolence must enervate and enfeeble them.
 Inactivity is often followed by a long train
 of diseases, depending on a slow and lan-
 guid circulation of the blood; and is prob-
 ably one of the chief causes of the de-
 bilitated constitutions of the present race
 of men: For, certainly, we cannot vie
 with our ancestors in hardiness, agility,
 and muscular strength.

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Frequent

Frequent, diversified, and amusing exercises, tend also to prevent that longing desire to return home, which has been termed *Nostalgia* by medical writers * : This propensity is so strong in many instances, as to be attended with very serious consequences to the soldier's health, unless it be gratified ; and has, therefore, given rise to the well known adage,

" Qui patriam querit, mortem invenit."

While we insist on the necessity of military exercises, in order to the preservation of health ; officers would do well to proportion the duty and hardships of the men, as much as possible, to the suitability of the weather. The time of being exposed to inclement, tempestuous, or sultry seasons, ought to be shortened ; and, in cases of actual service, the troops might relieve each other more frequently than on ordinary occasions.

* This subject is admirably illustrated by some cases which Dr. Hamilton has recorded in the first volume of his work on the " Duties of a Regimental Surgeon."

“ By arts like these
“ Laconia nursed of old her hardy sons ;
“ And Rome’s unconquer’d legions urg’d their way,
“ Unhurt, thro’ ev’ry toil in ev’ry clime *.”

We must not conclude this article without giving a word of caution to those who may be greatly fatigued and heated by long-continued exertion. In this state the body is debilitated, and ought to cool as gradually as possible. A sudden transition, from heat and exercise to a cold air and absolute inaction, would be highly dangerous. During brisk exercise and a state of perspiration, the blood circulates freely to the surface of the body and its extreme parts; but when, by a sudden exposure to cold and rest, it has been repelled to the internal organs, the most serious inflammatory disorders, such as pleurisy or phrenzy, and even a speedy death, may be the consequence.

* Dr. Armstrong’s Art of preserving Health,
Book the third.

C H A P. VII.

Of personal Cleanliness.

ATTENTION to cleanliness is of the utmost importance. It is observed both in the navy and army, that those men who are most negligent of their persons, are the first who are infected by diseases. By negligence in this article, infectious disorders are often spread amongst a whole army, and frequently prove more fatal than the sword*.

* Some excellent hints on this and other subjects have been lately put into my hands by Mr. KEATE, the Surgeon-general of his Majesty's forces; which I have thought proper to subjoin to this publication, in their original form; believing that the design of the army medical board would be thereby, in some measure, promoted.

The

The clothes of soldiers by being usually kept crammed together in the knapsack, are apt to acquire a musty unpleasant smell, unquestionably injurious to health; to obviate which, soldiers should be obliged to expose the whole of their clothes daily to the influence of the sun and air.

The copious perspirations occasioned by military exercises, and the dust that often accompanies the movements of an army, must tend to accumulate filth and sores upon the skin: These should be removed at every convenient opportunity. After a long march men should never neglect to wash their face, hands and feet, and indeed the whole of their body, as clean as possible. The comfort and health resulting from this practice, would soon be found an adequate reward for their trouble.

With this view, whenever the neighbourhood of a river, or especially of the sea, permits them, the men should be encouraged to bathe frequently.

opened, and all offensive smells removed. Strict orders should likewise be given, that the privies or pits be constantly made use of, and that nobody commits any nuisance within or near the walls of his apartment.

Mr. Sommerville very pertinently observes, " It might naturally be supposed that few regulations would be necessary upon a subject like the present; and that men even when left to themselves, would always, from a regard to their own health, and on account of the pleasure arising from cleanliness, take the most effectual means to secure their comforts.

" Were we merely to reason upon this subject, we might draw this conclusion; but experience completely contradicts it, as we daily meet with men whose dirtiness and sloth are such, that neither the immediate comfort arising from cleanliness, nor the ultimate effects resulting from a want of it upon their own health, are strong enough to make them

them pay a due regard to it. Indeed, nothing short of punishment is adequate to that end, or can create the smallest exertion." So little are men's eyes open to what conduces to their real interest.

C H A P. VIII.

Of Camps.

THE healthiness of an encampment depends much on the choice of ground. A camp ought, if possible to be situated on a gentle declivity, with a dry bottom, in the vicinity of good water, and free from the unwholesome influence of air blowing over woods or marshes. A camp should not be formed on ground recently occupied, nor in the neighbourhood of an hospital, nor where an engagement has taken place lately. The slaughter houses should also be at a distance. No situation, upon the whole, seems preferable to the elevated bank of a rapid river. If the river be muddy, its water may be cleansed by the means indicated in the Appendix.

Bell

Bell tents, in which the men lie in a radiated manner, with their feet towards the center, are at present most approved of: Their figure is that which contains the largest space within a given line, and their appearance is pleasing. The only objection that can be made to them, is the bad consequences that must necessarily arise from the confined exhalations of so many men; to which, indeed, every other form is equally liable. These effluvia are a most pregnant source of disease, and every effort should be made to counteract their influence. The men should not be allowed to remain longer in the tents, than is absolutely necessary for their repose. The canvas should be drawn up every day, the straw well shaken, and perflated by the wind: no dampness of weather, short of absolute rain, should prevent the execution of this duty. The blankets should also, as frequently as possible, be exposed to the sun and air on the neighbouring bushes.

Could

Could any mode of producing a circulation of air through the tent be suggested, without admitting moisture, it would be a material improvement in their construction. The men should be furnished with plenty of straw to sleep upon, which should be renewed as often as possible. Heath, or dry moss, are its best substitutes : And, as it is advantageous to sleep with the head higher than the body, the men should form part of their bedding into pillows.

We have said before, that soldiers should, as often as possible, undress when they go to sleep ; but where this is impracticable, they ought always to loosen the ligatures or tight parts of their clothes *, and especially their shirt collars. Trenches should be dug round each tent, communicating

* The Woodmen in America who pass whole summers in the open air, find it very important to loosen all their ligatures at night : Some young men, who from hardiness despised this precaution at first, were soon under a necessity of adopting it.
with

with the other more extensive drains, to carry off the moisture. The ground within the tents should in general not be broken, as the dampness of the earth might, in that case, exhale. It would conduce greatly to the healthiness of an army, were the bottom of every tent covered with thick painted canvass or tarpawling: And, no officer should ever neglect to have a piece of oiled cloth under his bed, unless it be raised from the ground.

In damp weather, an officer may improve the air in his tent, by burning some spirits, tobacco, or wetted gunpowder; and the danger from marsh effluvia may be corrected by plunging pieces of heated iron into vinegar, or still more effectually by the fumes of nitrous acid.

In a wet season, or when the wind blows from an unhealthy quarter, it is useful to light fires to windward of the encampment. Habitual smoaking tobacco within tents ought to be prohibited; for to many individuals, it is in-

tolerably

tolerably inconvenient and noxious : It has also been remarked, that men who smoaked were soonest affected with catarrhs, as well as some other diseases.—The notion that once prevailed of tobacco preventing contagion is now ascertained to be false : But if it were otherwise, it would be equally effectual burned in chafers, as when drawn into the lungs. The health of an encampment is much connected with its cleanliness ; to preserve which, no effort should be omitted. The carcases of dead horses, dogs, with every kind of offal ; should be removed to a distance and buried*. The privies should be dug deep in the rear of the camp, and every individual should be punished who eased himself elsewhere. Some institution like what the Jewish Legislator recommended to his countrymen, might with propriety be enforced, “ Thou shalt have

* Portius, Ramazini, and Meyferey, relate instances of the ill effects of neglect in this point of cleanliness.

“ a place

“ a place without the camp, whither
 “ thou shalt go forth abroad : and thou
 “ shalt have a paddle upon thy weapon ;
 “ and it shall be when thou wilt ease
 “ thyself abroad, thou shalt dig there-
 “ with, and shalt turn back and cover
 “ that which cometh from thee.” Deut.
 C. xxiii. V. 12, 13.—In many camps
 it is the daily practice to send a party
 out for the express purpose of throwing
 earth into the privies.

Notwithstanding every precaution,
 however, a fixed camp will in time be-
 come unwholesome ; and this is only to
 be remedied by changing ground, and
 leaving the noxious causes of disease.—
 It has been almost universally allowed,
 that troops who move and shift their
 ground frequently, are more healthy than
 those who remain stationary a long
 time*.

* See Vegetius De Re Militari Lib. 3, Cap. 2.
 and Quintus Curtius Lib. v. §. 32.

C H A P. IX.

Of the Prevention of Diseases.

THE diseases that prevail in an army vary according to the seasons of the year. They have been divided into those of the summer, and of the winter, or of the *camp* and *garrison*.

The diseases of winter are usually of that kind termed inflammatory; as coughs, pleurisy, rheumatism, &c.

The diseases of summer and autumn are of a different nature; being generally such as are denominated low, nervous, or putrid, and are very often infectious.

If at this season any stoppage happens to perspiration by exposure to cold, or night air; or any other of the excretions be suddenly checked, a fever takes place,

place, which, according to circumstances, may appear as a remittent, or intermittent; or, if the bowels be affected, may occasion a *cholera*, or a dysentery.

These last-mentioned complaints are what have been commonly termed bilious. It is well known that, in all hot countries, and in camps where men are much exposed to the heat of the sun, the gall is secreted in greater abundance, and is more liable to morbid alteration than usual; and this circumstance, Sir John Pringle observes, though not probably the first cause of fever, yet seems to be an attendant of it, as well as of most of the summer and autumnal diseases, and concurs to make them worse. It may be proper to add, that the intemperate use of fermented or spirituous liquors, during the heat of summer, tends greatly to encrease the secretion and acrimony of the bile.

Notwithstanding this general division of diseases according to the seasons of the year, it is necessary to be aware, that

the inflammatory complaints of the winter may also happen in spring, especially if the troops take the field early: Coughs, colds, and peripneumonies, are then common. As the weather, however, becomes milder, the sickness diminishes; and this is, of all the seasons of the year, the most healthy to an army. If the summer be dry, this general state of health continues till about the middle of August; when the warm days, followed by cool and, perhaps, dewy nights, bring on fluxes, and other complaints of the bowels. As the autumn advances, remitting fevers appear, and the approach of winter revives the inflammatory complaints arising from cold.

The purpose of these pages being by no means to interfere with the offices of the medical department of the army, which, by the adoption of some late regulations, is now conducted in the most liberal and judicious manner, the cure of diseases can form no part of the present plan. All that shall be attempted,
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is by pointing out the most frequent exciting causes of complaints, to enable those who are necessarily exposed to their influence, in some measure to counteract them.

Dr. Rush informs us that the American army "was always more sickly when the men lay in tents, than when they lay in the open air." Hence we may learn that men will, under certain circumstances, bear a very sudden transition from their usual habits of living in close houses and lying in warm beds, to the exposure, and what are usually termed the hardships, of a military life. But as it has been observed that young men are most liable to camp diseases, and especially to those inflammatory complaints which are prevalent at the beginning of a campaign, they should take some degree of care to avoid unnecessary exposure to great alterations of temperature: And every man ought to be aware that, by a plentiful bleeding, or some proper

proper evacuation, colds and coughs may often be removed at their commencement, which, if they be permitted to make much progress, may render a man long unfit to do his duty, or, perhaps, even terminate in a rheumatism, or fatal pleurisy, or lay the foundation for a consumption of the lungs. No improper ideas of hardiness, which are most apt to prevail in the mind of the young and unexperienced, but brave soldier, should make him backward to complain, or prevent him from applying for proper medical assistance on the first attack of these complaints.

Men may also do something to relieve themselves, at the commencement of what is usually termed a cold. Some attempt to cure a cold by getting drunk. This, to say no worse of it, is a very hazardous experiment. No doubt it may sometimes succeed by suddenly restoring the perspiration; but if there be much tendency to inflammation, which, in the
young

young and robust, is usually the case, strong liquors, instead of removing the malady, will increase it. By this means a common cold may be converted into an inflammatory fever.

It is a much safer and wiser practice to abstain from solid or heating food. If possible to remain in bed, and to drink plentifully of water-gruel sweetened with honey; or of infusion of linseed sharpened with the juice of orange or lemon; or barley-water with tamarinds; or any other cool, diluting, acidulous liquor. This practice will often cure a cold in one day, which, if neglected, might have continued for months, or even endangered life.

As the season advances, inflammatory diseases diminish, and what are termed bilious complaints, increase in frequency. The bilious, or camp-fever, begins with chilliness, lassitude, pains of the head and bones, and disorder of the stomach: Towards evening all these symptoms are increased. Those men are first seized

seized with this disease who are most exposed, from want of clothing and accommodation, to the combined effects of cold and moisture. A bout of intoxication, the use of improper food, getting wet, or lying on the damp ground, will excite this disease in individuals, who, by more prudent conduct, might perhaps have escaped.

The exciting causes of these diseases appear in general to be some check of perspiration; whence may be deduced the great utility of keeping up this discharge by wearing flannel next the skin.

Dr. Rush observes, "that those officers who wore flannel shirts, or waistcoats, next their skins, in general escaped fevers and diseases of all kinds."

At the commencement of fever, oppression at the stomach, or unusual costiveness, frequently indicate the propriety of evacuations. Were these suggestions of nature duly attended to, and promoted, the progress of a fever might often be cut short. An emetic, or purgative,

gative, judiciously administered, will frequently nip these diseases in the bud.

The lassitude and weariness usually complained of at the beginning of a fever, evidently shew the propriety of keeping easy and quiet; and, if possible, in bed. This, and bathing the feet in tepid water, will often prevent the disease from going further, and is all that any man should venture to do of his own accord.

Marshy situations give rise to intermittent fevers or agues. Strangers, on coming into such situations, are more prone to them than the inhabitants. It is their duty, therefore, to use proper precautions to prevent infection. They should live more generously than usual. Men who drink wine are seldom liable to agues; and for that reason officers are less liable to them than the common men. It is improper, in such situations, to venture abroad fasting. Before going out, the stomach should be fortified by a bit of bread and a cup of infusion of some bitter herb, as tanfy or chamomile,
or,

or, which is better, by a small glass of spirits, in which something of the same kind has been infused. It has been observed, that of troops encamped in aguish grounds, those who fed on salted provisions often escaped, while the rest were seized with the disease.

In such situations, every man who can afford it, should supply himself with a quantity of good tincture of Peruvian bark, of which he should take a tea-spoonful or two twice a day, in a glass of water or of wine, at stated times; for much depends on doing it regularly. Those who have a decided aversion against bark, will find the following answer the same purpose. Take an ounce of gentian root and chamomile flowers, orange peel, and coriander seed, half an ounce each, bruise the whole in a mortar; these ingredients may be infused in water, in wine, or in spirits, and a cup+full taken regularly two or three times a day. Good effects would also be produced

half

duced by the habitual use of ginger or tanfy tea for breakfast.

The dysentery or bloody-flux is another disease, to which soldiers in camp are peculiarly liable. It is most prevalent towards the end of summer, especially if the season has been hot and close; and is frequently excited by lying wet after a march in warm weather. The commencement of this disease is so similar to that of the bilious fever already mentioned, that it has been said to be the same complaint fallen upon the bowels. This is farther confirmed by finding, that nearly the same method of treatment is useful at the commencement of both complaints. Plentiful dilution with linseed tea, barley water, or chicken water, is here peculiarly salutary: Gelatinous broths answer the purpose both of food and medicine. A kind of food very salutary in dysentery, is made by boiling a few handfulls of fine flour, tied in a cloth, for six or seven hours, till it becomes as hard as starch;

two or three table spoonfulls of this may be grated down, and boiled in such a quantity of new milk and water as to be of the thickness of pap : this sweetened, may be used as the patient's ordinary food. Every kind of seasoned or heating food must be cautiously avoided : Sir J. Pringle says, that the disease was sometimes wholly removed by plentiful dilution with simple warm water, when nothing else would remain on the stomach. Such is all that the patient can venture to do for himself when attacked by this disease ; the rest he must leave to the skill and judgment of his medical attendant.

The best preventive against this complaint, is what has been often already mentioned ; to wear flannel, or fleecy hosiery next the skin : if once put on, however, it must not be left off. Such an act of imprudence, is often the cause of complaints of the bowels in all situations. This disease is contagious : when it appears, therefore, the infected should,

as soon as possible, be separated from the healthy. The excrements of the diseased, besides their singularly unpleasant fetor, certainly tend to spread the contagion. Those who are well, should therefore be strictly interdicted from frequenting the privies used by the diseased.

Experience has demonstrated, that good ripe fruit, is one of the best medicines both for the prevention and cure of dysentery, though vulgar prejudice accounts it the cause of the disease. Good fruit is, in every respect, calculated to counteract that tendency to putrefaction from whence the most dangerous kind of dysentery proceeds. Apples, grapes, gooseberries, currants, strawberries, raw or boiled, with or without milk, should be allowed the patient in as great abundance as he chuses.

The celebrated Dr. Tissot, was the first who exerted himself to overthrow the common prejudice against the use of fruit in dysentery. Among a variety of

other facts he tells us, " That this disease had nearly destroyed a Swiss regiment in the South of France ; the captains purchased the whole crop of several acres of vineyard, where they carried the sick soldiers, and gathered the grapes for such as could not bear being carried into the vineyard ; those who were well eat nothing else : after this not one died, nor were any more ever attacked by the dysentery *."

There is another species of fever to which armies are liable, which is peculiarly infectious : it is generated by men crowded together in any situation ; and from the places that most commonly render such crowds necessary, it has been termed the hospital or jail fever.— This disorder is, indeed, incident to every place that is ill-aired and kept dirty, or that is replete with the exhalations of foul or diseased bodies. A single instance of a mortified wound in the ward of an hospital, will occasionally

* *Avis au peuple*, Chap. XXIV.

give rise to it; or even confining a sick man too closely to his tent.

It is of the utmost importance to prevent this disease, which from its highly contagious nature, will soon destroy the effective strength of an army; nor does the mischief stop there; it generally extends its ravages through the neighbouring country. Its first attack is marked by a peculiar and great deficiency of strength.

The nature of contagion is by no means yet well understood. Some facts relative to it are, however, well established. It is always generated by crowding men together, and more quickly if any of these men be diseased. Crowding other animals together, produces similar effects. During the American war, attempts were made to supply the British army with fresh provisions, by carrying out live sheep and hogs. Before arriving at the place of their destination, a contagious disease generally broke out, which destroyed most or all of them.

With a view of preventing this dreadful malady, wherever men are under the necessity of being congregated together, every effort should be made to promote free ventilation, by all possible means.— By attending to this, and other preventive operations, the frequency of this disease aboard of ship, a situation peculiarly favourable to its existence, has been much diminished: an attention to the same means would, no doubt, prove more efficacious in obviating its existence in military hospitals or camps.

As soon as the contagion appears, endeavours should be made to destroy it.— This is more easily done at an early period than after it has gathered strength. The world is indebted to Dr. Carmichael Smith, for a mode of checking this contagion, no less simple than efficacious, and which may be practised with equal facility in the tent of an individual, as in a general hospital. This is the nitrous acid in a state of vapour.— The easiest mode of producing this useful

ful preventive, is by mixing half an ounce of vitriolic acid with half an ounce of nitre, and placing the cup containing the mixture in a vessel of boiling water or of heated sand. The nitrous acid in a state of vapour immediately diffuses itself through the air, and is the best corrective of contagious effluvia hitherto discovered.

Healthy men are frequently infected by the duty of conveying the sick to the hospital; those, therefore, whose lot it is to be employed in this necessary duty, should be particularly vigilant in employing the preventive means above recommended.

Among the diseases common in armies, and by no means one of the least troublesome, may be reckoned the itch. To prevent it from spreading, the infected should as soon as possible be separated from their comrades, and no communication be permitted between the healthy and the diseased. As this complaint

plaint is at first not very troublesome, it is frequently concealed, and of course the infection gains ground: some pains should therefore be taken to detect it. The regimental surgeon ought, with this view, carefully to inspect the men who are returned from the hospital, a place that is seldom free from this complaint.

In the course of this chapter, I have experienced considerable difficulty in drawing a correct line, between the prevention, and the cure of diseases. My observations are intended solely to apply to the former. To interfere with the latter, would be intruding on the official duties of the medical department. Delicacy in this point may sometimes have restrained my pen: but if on any occasion I have overstepped my intended limits, I trust the mistake will be attributed to its real motive;—a wish to impart all the knowledge that can be useful and proper for soldiers.

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The late ingenious publication of Dr. Currie, on the effects of water in the cure of fevers, well merits the attention of every man interested in preserving the health of soldiers. From the effects of the affusion of water in checking fever at an early period, is it not fair to suppose that cold bathing regularly practiced, might be efficacious in preventing the rise of contagious diseases in an army?

In one of the publications of Dr. Rush, of Philadelphia, he throws the result of the observations he had made on the health of soldiers, during his attendance on the army, into the form of general aphorisms. Some of them contain so much good sense, and are so applicable to the present state of part of the army in Great Britain, that I shall lay them before the reader in the Doctor's own words.

“The army when it lay in tents was always more sickly, than when it lay in the
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the open air. It was likewise more healthy when it was kept in motion, than when it lay in an encampment.

“ Young men under twenty years of age were subject to the greatest number of camp diseases.

“ Men above thirty, and five and thirty years of age, were the hardiest soldiers in the army.

“ Those officers who wore flannel shirts or waistcoats *next to their skins**, in general escaped fevers and diseases of all kinds.

“ In all those cases, where the contagion was received, cold seldom failed to render it active. Whenever an hospital was removed in winter, one half of the patients generally sickened on the

* Although I have had occasion elsewhere to recommend warm clothing; I may, perhaps, be preventing misapprehension, by adding, that where flannel is advised, it is always intended to be worn *next the skin*.

way, or soon after their arrival at the place to which they were sent.

“Drunken soldiers and convalescents were most subject to fever.

“An emetic seldom failed of checking fever if exhibited while it was in a *forming* state, and before the patient was confined to his bed.

“Many causes concurred to produce, and increase fever; such as the want of cleanliness, excessive fatigue, the ignorance or negligence of officers in providing suitable diet and accommodations for their men, the general use of linen instead of woollen clothes in the summer months, and the crowding too many patients together in one hospital, with such other inconveniencies and abuses, as usually follow the union of the *purveying* and *directing* departments of hospitals in the *same* persons. But there is one more cause of this fever which remains to be mentioned, and that is, the sudden assembling of a great number of persons together of different habits and manners, such

such as the soldiers of the American army were in the years 1776 and 1777: Doctor Blane informs us, in his observations upon the diseases of seamen, "that
" it sometimes happens that a ship with
" a long established crew shall be very
" *healthy*, yet if strangers are introduced
" among them, who are also *healthy*,
" sickness will be mutually produced."
The history of diseases furnishes many proofs of the truth of this assertion. It is very remarkable, that while the American army at Cambridge in the year 1775, consisted only of New-England-men (whose habits and manners were the same) there was scarcely any sickness among them. It was not till the troops of the eastern, middle and southern states met at New-York and Ticonderoga in the year 1776, that the typhus became universal, and spread with such peculiar mortality in the armies of the United States.

" I saw several instances of fevers occasioned by the use of the common ointment

ment made of the flour of sulphur and hogs lard for the cure of the itch. The fevers were probably brought on by the exposure of the body to the cold air, in the usual method in which that ointment is applied. I have since learned, that the itch may be cured as speedily by rubbing the parts affected, two or three times with the dry flour of sulphur, and that no inconvenience and scarcely any smell, follow this mode of using it.

“ There was one instance of a soldier who lost his hearing, and another of a soldier who had been deaf who recovered his hearing, by the noise of artillery in a battle.

“ Those soldiers who were billeted in private houses, generally escaped the contagion of the hospital fever, and recovered soonest from all their diseases.

“ Soldiers are but little more than adult children. That officer, therefore, will best perform his duty to his men, who obliges them to take the most care of their HEALTH.

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“ Sol-

“Soldiers bore operations of every kind immediately *after* a battle, with much more fortitude than they did at any time afterwards.

“Militia officers and soldiers, who enjoyed good health during a campaign, were often affected by fevers and other disorders, as soon as they returned to their respective homes. I knew one instance of a militia captain, who was seized with convulsions the first night he lay on a feather bed, after sleeping several months on a matras, or upon the ground. These affections of the body appeared to be produced only by the sudden abstraction of that tone in the system which was excited by a sense of danger, and the other invigorating objects of a military life.*”

* Medical Enquiries and Observations, by Benjamin Rush, M. D. second edition, Philadelphia. 1789.

C H A P. X.

Of Casualties.

THE mode of counteracting the incidental effects of extreme heat and cold, have already been pointed out. The other casualties, to which a military life is peculiarly exposed, are accidental drowning, wounds, fractures and dislocations. As each of these may occur at a time when no medical assistance is near, I shall point out what may be done with propriety, till farther help can be procured.

When a person has remained more than a quarter of an hour under water, there can be but small hopes of his recovery; yet, as some peculiar circumstances may have happened to continue life, and as instances of recovery are recorded, after a much longer space of time, the unfortunate object should never

be resigned to his fate, nor any method be left untried for his recovery.

As soon as the body is taken out of the water, it should be conveyed with all convenient speed to some proper place for applying the means necessary for its recovery. In doing this, care should be taken not to bruise or injure the body by rolling it over a cask, or on the ground, as often has been done; or by carrying it in any unnatural posture, with the head hanging downwards. It ought to be carried on mens' shoulders, or in a cart, and kept in as natural and easy a position as possible. The principal intention to be pursued, is to restore the natural warmth, and excite the circulation of blood.

After removing the wet clothes, the body should be strongly rubbed, for a considerable time, with coarse flannel or woollen cloths, dipped in warm brandy: It should then be laid on hot blankets, between two healthy persons, who should also be covered with the bed-clothes:

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At the same time, large bladders filled with hot bran and water, or bricks heated and wrapped in flannel, may be applied to the feet and stomach; while volatile salts or spirits are rubbed on the temples, mouth, and nose.

Life has been restored by covering the body with warm embers, grains, or dung; but the above mode of restoring the heat, is much more simple and natural, as well as more easy to be effected. In my opinion it is also preferable to the use of a warm bath, which requires some judgment and caution in using.

Respiration has been frequently restored by blowing strongly into the mouth, at the same time stopping the nose; and when the chest is by this means expanded, pressing the air out again by the hand: This is best done by a pair of proper bellows, but if such are not at hand, a man should not hesitate to use his mouth.

Clysters of tobacco smoke, or warm salt and water, are also useful; but the

above means will occupy the attention sufficiently, till a medical assistant can be sent for. The utility of bleeding is not yet determined: I think, on the whole, it would be better omitted; and the time wasted in fruitless efforts to draw blood, may be employed in much more efficacious means to promote recovery. This plan should be persisted in for at least an hour. Many have recovered, who have not given any signs of returning life, even for a longer period. Similar methods may be used when persons have been suffocated by damps or noxious air in mines or deep pits, &c.

It is of great importance to permit no persons to be in the room or tent, but the necessary assistants, as foul or contaminated air tends much to prevent recovery.

But the accidents, in which the military are more immediately concerned, are wounds, fractures, and dislocations. Were it possible to dress the wounded,
in

in all bad cases, immediately on the field of battle, every military surgeon knows how many lives might be saved. Exposure to inclement weather, loss of blood, or being jolted in a waggon, often renders wounds dangerous, which perhaps in themselves were of little importance. Mr. W. Blizard, surgeon of the London hospital, in a little tract published a few years ago relative to the health of seamen, after remarking that many men, stationed in the tops, and elsewhere, distant from surgical assistance, lost their lives in consequence of loss of blood, from wounds by no means in themselves mortal, proposed that a certain number of men should be instructed in the mode of stopping a sudden discharge of blood by the use of the tourniquet. This humane suggestion has been adopted: men, informed of the use of these instruments, and having several of them about them, have been stationed in the tops, or wherever their presence was considered as necessary, and have
been

been the means of saving many valuable sailors.

May it not be deemed expedient to adopt a similar regulation in the army? Were one or two non-commissioned officers in each company taught the use of the tourniquet, they might preserve some lives. It may be urged that a man employed in this way, would be neglecting his duty as a soldier.— This neglect would be only temporary: and surely there is as much merit in saving the life of a fellow-soldier, as in annoying the enemy.

These instruments are, however, only applicable to wounds of the limbs.

To facilitate the attainment of this kind of knowledge, (the utility of which I suggest with deference), it was my intention to have added the outlines of the limbs, with the course of the arteries, and the place at which the tourniquet should be applied; but the engraver found it impossible to accomplish my purpose at the period when this performance

was

was promised by the publisher. A little practice on any of his companions, will teach a man how to use this instrument with facility. That it has produced the intended effect may be known by the pulse ceasing to beat at the wrist or the ankle. A regimental surgeon or his mate might be worse employed than in teaching all the corporals of his regiment this piece of practical knowledge.— On the day of battle each of them might have two or three in his pocket, to be applied when wanted. A trifling sum would supply the whole quantity required; as they may be had at half a crown a piece, and perhaps for less when purchased in a large quantity.

On such occasions officers might find it worth their while to provide a sort of simple litters, which are easily formed with a few hoops and boughs of trees, in the rear of the army, on which they might be conveyed in safety, if wounded, to the station of the surgeons.

Dr. LE

Dr. LE COINTE, whose work has been already repeatedly quoted, has proposed an improved waggon for conveying the wounded from the field of battle. The upper part is constructed with seats, on which the more slightly wounded may support themselves by the assistance of posts which project at convenient distances. Under this a platform is suspended by chains, in such a manner as to prevent jolting. This is to be covered with straw or mattresses, for the reception of the more severely wounded. The invention certainly merits imitation.

Much misery as well as mischief is produced by conveying the wounded to distant depots before they are dressed. Surgeons should be stationed as near the field as is consistent with safety, and at different distances on the road towards the nearest hospital, that the wounded may receive every accommodation their situations may require.

The

The propriety of such regulations is farther supported, by observing that men bear every necessary operation with much more fortitude, soon after a battle, than at a more distant period : Not to mention the renovation of pain that is the necessary consequence of surgical treatment, after the parts have begun to inflame.

Most of the observations I have made in regard to wounds, will apply to fractures and dislocations ; which, under certain circumstances, are likely to happen often among the troops of an active army.

The same precaution and tenderness are required in conveying patients with broken limbs from place to place, as are necessary in cases of wounds. Many instances of simple fractures have, by rude treatment, been converted into compound fractures ; and thereby life has been endangered, or the cure greatly protracted.

When

OF CASUALTY

When a joint has been displaced or
the limb should be laid
in a natural, a posture as
as possible, the injured part; nor should
it be made to reduce it, un-
der the direction of a surgeon:
care should be taken, in re-
moving a joint in this condition, to
keep the limb perfectly steady in its
proper position, & application be employ-

If any outward application be employed to the affected part, the most convenient and useful will be a piece of linen dipped in equal parts of vinegar and water: But even this, perhaps, had better be dispensed with, where there is a wound communicating with the bronchus.

CHAP.

C H A P. XI.

Of Hospitals.

WITH regard to the domestic regulations of hospitals, I shall not presume to advance any opinion: They are under the conduct of Gentlemen unquestionably qualified to discharge their duty with propriety; but on the general policy of their establishment I may be permitted to offer some hints.

It seems to be agreed upon by those who have had most experience concerning the treatment of army diseases, that frequently the establishment of general Hospitals is injurious to the service, and that they ought as far as possible to be avoided.

Dr. Jackson observes, "that the *general hospital* has ever been a heavy article in the expences of war; and that the establishment

blishment is in great measure superfluous. I have no doubt in obtaining the suffrages of people of experience, that *general* hospitals are ruinous to military discipline, that they promote sloth and indolence, diseases to which a soldier is peculiarly liable; and that they extinguish, very speedily, all ardour for the service of the field. There is, in fact, no exaggeration in the assertion, that the man who has spent two or three months in the general hospital, is less a soldier than when he was first recruited. Besides, it is likewise certain that cures are often protracted to some months continuance in an hospital, which might have been accomplished in a few days, if circumstances would have permitted the men to remain with their regiments. Regimental surgeons have many inducements to exert themselves in restoring their men speedily to health; which act only with feeble power on those who have the management of general hospitals. The former likewise possess some advantages

vantages of which the latter are destitute. They know the habits and disposition of the patient; they see the disease in its first beginnings, and are enabled to seize the most favourable moments for acting with decision. I may add, that such is the nature of military diseases, that there does not perhaps occur one case in twenty, which might not be treated properly by the surgeon of the regiment, if attention and a very little expence were bestowed in providing necessary accommodation. I may further observe, that together with the indolence naturally attached to military hospitals, and uniformly hurtful to military discipline, there is often actual danger to life, by removing men in critical circumstances, or by the necessary intermission of medical assistance where continual and vigourous exertions are required."

Notwithstanding these objections, which are corroborated by the respectable authority of Dr. Rush, who terms

them, "The sinks of human life in an
"an army," and says, "they robbed the
"United States of more citizens than
"the sword;" since hospitals are found
to be indispensable, some practical ob-
servations on this subject may be ac-
ceptable.

If there be a choice of ground, an
hospital, whether regimental or general,
should be placed upon that which is dry
and elevated; a circumstance however
evidently useful, not always attended to,
and sometimes sacrificed even to a con-
sideration so trivial, as uniformity of ap-
pearance. It should be in an air, dry,
and free from the effluvia of marshes,
but if possible not far removed from a
running stream.

They should be separated into wards
according to the nature of the diseases,
nor ought the wounded to be mingled
with the sick. The exhalations from
a single mortifying stump are sufficient
to change the usual camp fever to a
putrid type. The mingled exhalations
of

of many diseased human beings congregated into one place engenders a poison peculiarly fatal. How often do we see sores rapidly deteriorating in an hospital, which almost immediately get well on sending the sufferer to the country, where he can breathe pure air. This evil is to be in some measure prevented by frequently ventilating our hospitals. In these situations every attention should be paid to renewing the air as often as possible: This regulation requires constant enforcement. The lower classes of mankind, especially when sick, have a prejudice against the admission of free air, which it is very difficult to counteract.

The air is also ameliorated by burning aromatic vegetables, by the fumes of vinegar, or of the nitrous acid, according to the mode already specified.

Beds composed of hay or straw are infinitely more wholesome than those made of wool, which in fact serve only to imbibe, retain, and perpetuate contagion. Every regiment ought to be

provided with a number of canvas cases; which may occasionally be filled with hay, straw, plantain leaves, or moss, as beds for the sick. As soon as one patient has ceased to use them, their contents should be emptied, and they ought to be fumigated and washed before they are given to another. Their cheapness would render this an object merely of trouble, which would be well repaid by its salutary effects. If the straw is supposed to be too hard, it may be rendered softer by being threshed with a flail, or trod on by cattle before it is put into the cases.

Bedsteads of iron are much preferable to those of wood, as being less apt to retain contagion. There ought to be some contrivance, to produce a temporary seclusion of any particular bedstead from the observations of others in the same wards. This attention is often due to decency; and is particularly required, that the surrounding sick may not be shocked by the dying agonies of their unfortunate comrades.

Clean-

Cleanliness is peculiarly requisite in an hospital. It is a virtue at all times; here it becomes a sacred duty. The sick should have frequent changes of linen, stockings, drawers, &c. They ought to be regularly combed, washed, and cleaned; the convalescents should be obliged to assist those who are unable in making their beds, as well as in removing every thing noxious or offensive, as soon as possible. Every thing in short that can tend to promote personal cleanliness, should be strictly attended to, and rigidly enforced.

It is the usual custom in the army to appoint an officer, daily to visit and inspect the treatment of the sick. This regulation is doubtless well meant, and might be attended with the most salutary consequences. Its beneficial effects are however in some measure counteracted, by its being daily repeated at the same hour. It is easy to assume the appearance of decorum, cleanliness, and regularity, during a short period occurring regularly once in the twenty-four hours.

If

If these visits are really intended to do good, they should take place at irregular and therefore unforeseen times. The officer occasionally should drop in, while the men are at their meals; nor should he disdain to taste their victuals, their beer, or their wine; and if their quality seem to be indifferent, carry a specimen to the commander in chief.—No virtuous or humane man will find himself degraded by the performance of such duties: on the contrary, they will secure him the approbation of his own conscience, and the affection, and sincere good wishes of the men under his command. The kind and sympathizing conduct of an officer towards his men; of which, as well as the reverse, they are highly sensible; has often saved his life in the day of danger. It is not in the day of battle, but in the military hospital chiefly, that the miseries of war are exemplified, and every effort should be made to diminish their magnitude.

With this humane intention the Army Medical Board have published the subsequent

requent regulations ; which, as coinciding with their intentions, that they should be diffused as extensively as possible, I shall here insert at full length.

*Instructions for the better Management of the Sick in Regimental Hospitals *.*

“**HIS** Majesty having been graciously pleased to order that every regular corps shall be provided with an airy, roomy, and healthily situated regimental hospital, where good water may be easily procured ; if the regiment is not in bar-

* Although there are several particulars contained in these Instructions, which do not relate to the conduct of the soldiers themselves, but only to that of their medical attendants ; I have thought it better to preserve this extract entire, than to mutilate what was originally intended to form a complete code of directions. The manifest utility of some parts of these Instructions, will be a sufficient apology for my inserting the whole : And if any of the regimental surgeons, or their assistants, should condescend to peruse this little work ; it is hoped that no part of the following observations will have been misplaced.

racks,

racks, where a part of the barrack, or other convenient place, is allotted by the barrack-master-general for the reception of the sick, such hospital must be provided by the regimental surgeon, or (in his absence) by the assistant surgeon; in which case, immediate reports of the situation, size, rent, &c. are to be made to the inspector of regimental hospitals; and, unless on very pressing emergencies, no engagement is to be entered into without the permission of that officer.

During encampment, an hospital tent is allowed in aid of an hospital, but not in lieu of one; and great attention should be paid to the choice of the ground where the tent is to be pitched, which, if possible, should be near the regimental hospital, and not in the rear of the lines; a trench is to be dug round it for carrying off the water; and, for the inside, straw worked up in thick mats should be placed upon dry sand, or gravel, under every pallias: where mats cannot be made, some fresh straw should
be

be placed under each palliass, and confined by boards or wicker-work, twelve or fourteen inches high, placed round the side of the bed; the straw to be changed once a fortnight at furthest.

The windows of the hospital to be opened, and the walls of the tent to be lowered, every day, to admit fresh air; and, ~~during~~ this interval, the beds of the convalescents, and of others who can sit up, to be made; and no man who is able to sit up, to be allowed to sit or lie upon his bed during the day; occasionally, in fine weather, the rugs, blankets, &c. to be hung out on bushes or laid upon the ground, and often turned.

The sides and floors of the wards, if of wood, to be washed occasionally with soap and water, and sprinkled with vinegar; the walls, if plaistered, to be frequently white-washed; and if a contagious disease prevails, the nitrous acid (formed by mixing half an ounce of vitriolic acid with half an ounce of nitre, and placing them in a sand heat), should
be

be evaporated in each ward, every day; and in such case, upon the death of a patient, the whole of his bedding to be well steeped in running water, or in a tub, then dried and baked in an oven, and afterwards washed with soap and water, before it is either used again, or put into the regimental store: and when the disease is subdued, the like to be done with the bedding of the whole ward.

The straw about the bed of a man who dies, to be taken out and burnt, and the place, or bed where he lay, to be sprinkled with vinegar.

No knapsacks or accoutrements to be permitted to hang up, or lie in the wards: the non-commissioned officer attending the hospital is, on the admission of the patients, to take charge of the knapsacks and accoutrements, and to be responsible for them.

The hospital is never to be crowded, every man to have at least the space of five feet allotted to his bed; and every man a bed to himself.

Every

Every regimental hospital will be provided with a steady serjeant ; with one orderly man, or more, according to the exigency of the service ; and one woman nurse ; and for every ten men confined to bed by fever, an additional nurse, or orderly man ; and all the patients who are able, are every morning and evening to assist in cleaning and airing the hospital, carrying away dirt, &c. and by every means to assist the helpless.

Every patient to be provided with a clean shirt, and clean pair of stockings, if he can sit up, twice a week, or oftener if necessary ; and with clean palliass cases and clean sheets once a fortnight, or as often as there is occasion ; the patients' heads should be combed, and their faces and hands washed every morning, and their feet once a week in warm water. They should be shaved twice, or three times, a week.

At his admission into the hospital, every patient is to be made extremely

M

clean

clean with warm water and soap, and have a clean shirt.

All men with infectious diseases, putrid fevers, fluxes, small-pox, or measles, to be removed immediately from camp, or barracks, to a separate room in the hospital, or, if the hospital is full, to a separate house, or, in certain cases of exigency, to an hospital tent: such men, when become convalescent, ought not to be reported too soon for duty.

Punished men also should be placed in a separate ward, and the linen and beds frequently changed.

Men with the itch should be cured in a spare tent in summer, or in a separate room of the hospital: such men should have each a clean shirt, and clean pair of sheets; and four frictions, or smearing the body all over four times, at six hours distance (lying in bed the whole time), with the army laboratory ointment, will, in most instances, eradicate the complaint: they must then be well washed in warm water, and put on all clean linen
and

and clothes: their clothes must previously be well scowered with soap and water.

Whenever this complaint prevails in a Regiment, there should be a weekly inspection of all the men by the Surgeon or Assistant Surgeon.

All men with venereal disorders should be confined to the hospital.

The commanding officer should be applied to for a guard of one or two centuries to every regimental hospital, and the same to every hospital tent.

The regimental surgeon, or the assistant surgeon, should visit the hospital at least twice every day, and the quarters of one of them should be very near to the hospital; when in a camp, one of them should sleep there.

A book is to be kept at every regimental hospital, for the admission and discharge, and for the cases, of patients; in which the name, age, disease, and treatment, should be fully inserted; a report to be made by the 20th of every

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month.

month to the army medical board, a copy of which is to be sent to the inspector, according to the usual form, together with any observations upon particular cases; and especially if a contagious fever or epidemic prevails, it is required that the surgeon, or assistant, shall give his opinion fully of the probable cause, and whether such cause is removeable; and also an account of the treatment.

They are to be particularly attentive to the examination of recruits, when such are brought before them; not to suffer any man to pass, who has not at his examination been stripped of all his clothes, to see that he has no rupture, to ascertain as far as possible that he has the perfect use of his eyes and ears, and the free motion of every joint and limb; that he has no tumours nor diseased enlargement of bones or joints; no sore legs; nor marks of an old sore: that his appearance is healthy; that he is neither consumptive, nor subject to fits:—with
any

any of these defects, the man is to be rejected as unfit for service.

“Inoculation of recruits at convenient times and places, is to be recommended by the surgeon and assistant surgeon to the commanding officer.

“An army dispensatory being established, it is expected that medical officers of all descriptions will, as nearly as possible, adhere to the list there given.

“Each regimental surgeon, when provided with a chest of medicines

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. is required once

every year, to make a return to the inspector of regimental hospitals, under cover to the secretary at war, of the medicines used by him during the preceding twelve months, and of what remain; and this return to be accompanied with an affidavit taken before a magistrate, that none of the medicines have, to his knowledge, been converted to private purposes, or applied to any use but

that of the regiment, or to some other military service, for which he must produce the special orders of the commanding officer, or of one of the army medical board.

Should a regiment be placed in an unhealthy situation, or from any prevailing disease should the surgeon's stock of a particular medicine be exhausted before the next yearly supply becomes due, he is to apply to the inspector of regimental hospitals, under cover to the secretary at war, for a fresh supply; the existence of such cause for the extraordinary consumption of the medicines to be certified by the commanding officer. If a medical officer desires to use a medicine not in the dispensatory, he must procure it as his own expence.

When wine is indispensably necessary, it should be given as long as the case absolutely requires, but no longer; and it must be given by the surgeon, or assistant surgeon, himself, unless previously mixed by them with medicine or food;
and

and porter, or good beer, should, whenever the case will admit of it, be given in lieu of wine: wherever wine is necessary, a return of the consumption thereof is to be made weekly to the inspector general.

Each regimental surgeon will be furnished with four sets of hospital bedding for every hundred men on home service; and with six sets, on foreign service; and other hospital necessities in proportion: a return is to be made once a year of the number worn out; and the unserviceable stores to be inspected by a proper person appointed for that purpose, before they are exchanged for new ones.

Each regimental surgeon is expected to have one complete set of capital and one of pocket instruments and the assistant surgeon one complete set of pocket instruments; the whole to be provided by themselves, and kept in order at their own expence, in readiness for inspection, whenever called upon; and the list of them is regularly

larly to be inserted in the yearly return.

Every regimental and assistant surgeon is expected to take care of the sick of any other regiment, detachment, or recruiting party, men on furlough, &c. in the place where their own regiment lies, or within ten miles distant, provided no hospital mate of a district is nearer than themselves, for which journeys the necessary travelling expences will be allowed; if applied to from a greater distance, they are to make the best terms in their power with a resident practitioner for the care of the men in question, making a report thereof to the inspector of hospitals as above.

The medical and hospital expences of the regiments, and of their respective detachments and parties, are to be inserted in the annual public accompts of the respective corps."

Signed,

{ L. PEPYS,
J. GUNNING,
T. KEATE.

The

The following judicious observations and cautions, copied from Mr. Sommerville's memoir, which has been already so often quoted, may be of use to the young and less experienced medical attendants.

“ Much care and circumspection will be necessary on the part of the medical attendants, as to the patients that ought or ought not to be admitted into the hospital; for, in many instances, laziness is the greatest part of the disease; and in others, the malady may be such as to endanger not only the other patients, but even the safety or comfort of the whole camp.

“ When troops are exposed to hard duty during bad weather, the lazy part of them see no other way of avoiding it but by pretending sickness, and being sent to the hospital, by which the duty of the good soldier is rendered heavier, the hospital crowded with people who have no right to be there, and the medical

dical attendants subjected to much unnecessary trouble and fatigue.

“ The same thing very frequently happens in new regiments, where the camp discipline is hard and the weather uncomfortable ; many of the young recruits who are in perfect health, pretend sickness, and wish to be admitted into the hospital, from a double motive ; 1st, that they may avoid their duty ; and 2d, that they may be saved the trouble of keeping themselves clean.

“ Accordingly a great many young men are met with about every military hospital, who have no ailment but laziness and aversion to their duty, and who resemble hospital patients in nothing but their dirty squalid appearance ; and it is by no means uncommon for ten or a dozen of these men, after finishing a hearty meal, to set down to cards, or even to drinking, in company with the nurses and hospital attendants. We have observed numberless instances of this kind,

kind, where the regimental surgeon has been completely duped by listening to feigned complaints, and many of the stoutest men in the regiment excused from duty, and laid up in the hospital, where their appearance exhibited nothing but *dirt, idleness, and dissipation*.

The complaints generally feigned by such men, are *rheumatisms, head-achs*, and the like. These, while they afford a plausible pretext for excusing them from duty, at the same time exhibit no symptoms by which they can be detected. All military surgeons ought therefore to be particularly upon their guard against complaints of this description, and should give orders that the persons so complaining should be strictly watched.

“ And as it ought to be a fixed principle with every medical man to render the hospital, as far as circumstances will allow, a place of comfort and relief to those who are really distressed; so, on the other hand, it should be converted into a place of punishment and confinement

ment for such as only pretend sickness. We confess that there are doubtful cases, where a surgeon is unable to ascertain whether the complaint be feigned or real; in such cases, however, the person complaining should be treated as if he were really ill, should be confined to a low diet, consisting chiefly of broth and bread, and entirely debarred the use of butcher's meat, *fish*, spirits, or fermented liquors, and all those gratifications that are so agreeable to idle people. Above all, the visits of the healthy part of the regiment to those in the hospital ought to be forbidden, for two reasons; 1st, as they afford an inducement for others to pretend illness, in order to avoid duty, and enjoy the comforts which the sick only ought to have; 2d, that by frequent visits of this kind to the hospital, the visitors are not only liable to catch infectious diseases themselves, but also to communicate them to the whole camp."

It would tend to preserve good order and decency in regimental hospitals, if
some

some such regulations as these following were to be enforced.

1. No card playing or gaming to be allowed.

2. No spirits or strong liquor to be vended.

3. No article of food to be used, unless it has been directed by the medical attendants.

4. No loose women nor visiting females to be admitted on any account whatever.

5. None of the comrades of the sick soldiers to enter the hospital without a written order.

6. No patient to go abroad without leave of absence obtained from the surgeon himself.

7. No cooking, nor washing or drying linen, to be suffered in the hospital.

8. Every nurse who connives at the breach of these regulations, or encourages the patients in any other misdemeanour, to be punished and discharged for the first offence.

C H A P XII.

Of Intemperance and Dissipation.

THE habits of the lower classes of people in this country, unfortunately dispose them much to intoxication, whenever opportunity permits them to gratify their inclinations. It is not to be supposed that their morals in this respect will in general be amended, by entering into the army. The precariousness and hardships of the military life, render those who are subject to them eager to indulge in every gratification, which accident throws in their way; and, of these, drinking is the most frequent and fascinating.

The prevalence of this vice, though it be at present punished by military discipline, fully proves the difficulty and necessity of eradicating it. The only liquor whose price permits the soldier
to

to use it as a means of intoxication is ardent spirit: And such as is provided by the followers of a camp, is usually of the most vile, sophisticated, and pernicious kind. To form a soldier, requires much time, labour, and expence: and as there can be no doubt that many of them fall sacrifices to the intemperate use of spirituous liquors, it might be deemed an act of humanity as well as of sound policy to prohibit the sale of them in the neighbourhood of a camp; and in their stead, to encourage the use of sound beer, ale, or porter, in which the pay of a soldier will never allow him to indulge so as to injure his health. In a word, all the provisions, and liquors of the sutlers should be inspected by a captain, and the surgeon of each regiment; and none allowed to be sold till they had been approved of by one of them, nor higher than at the usual market rate.

It may, with propriety, be mentioned here that the **VENEREAL DISEASE**

also deprives the service of a great many useful men. A very judicious regulation has lately taken place with respect to the mode of remunerating the surgeon for the cure of this complaint: But soldiers are still inclined to conceal its early stages, from dislike of confinement, or perhaps from ignorance of the consequences of its recent, and apparently trifling, symptoms: Whence they are induced to apply to mercenary quacks, mountebanks, and farriers, or to some of their ignorant comrades, who promise more than they can perform. Thus the period at which medical assistance is of the utmost importance elapses; and the disease is allowed to take root in the system, and acquire a degree of malignity not easy to eradicate. Instead of communicating their cases to the regimental surgeon as soon as they are infected, the men are frequently rendered unfit for duty, and are necessarily discharged from service. I have often admitted such mutilated objects into the
Lock

Lock Hospital; and sometimes have been obliged to dismiss them, cured indeed of the *lues venerea*, but with constitutions too broken and impaired to gain their livelihood in any capacity whatever.

The other hospital surgeons in London will bear their testimony to similar depredations of this disease, or its treatment, in the British army. But, much of this mischief might be prevented by ordering a serjeant to enquire individually of the men of each company, once a week (suppose every Monday morning) whether they have any reason to believe themselves infected? And it might be proper to forbear stopping their pay; except of those who are so bad as to require confinement. By this ready discovery of their situation, men might even be cured while in the ranks, and kept out of the hospital; which must always be an object of consequence.

Long experience has proved that idle and vicious habits are not to be cured by punishment and severity: I would there-

fore propose, with all due submission, that, in order to amuse and civilize the soldiers; to deter them from pernicious habits of laziness; and as a means of preserving their health; the greatest possible encouragement should be given, not only to various athletic exercises, but to useful mechanical employments, and even to the diversions of music and dancing. With respect to diversions it might be a gratification to some of the officers to preside at them; and would be an innocent, if not useful, mode of filling up some of their leisure hours, both in camps and quarters.

Mr. Somerville remarks, that, "in all regiments there are a number of the privates, who have been bred up to mechanical employments, and who, from having been accustomed to constant labour early in life, are apt to become dissipated when they are idle. To this class *shoe-makers, tailors, and weavers*, principally belong. People of this description may always be employed by
the

the regiment, in such a way, as not only to benefit themselves, but to produce a saving to the country. By proper attention, the whole of the regimental clothing and shoes, may be made by the taylor and shoe-makers of the regiment; and, in many instances, during peace, when the men are in quarters, a great deal of the coarse woollen cloths, of which their coats and waistcoats are made, might be wove by the men. This last expedient, however, is not always practicable, as there are many situations where looms cannot be had for the purpose; but the taylor's and shoe-makers' work admits of being done in almost every situation."

"A regulation of this kind would not only produce a saving in point of expence, but the articles would also be better than such as are obtained by contract: to which if we add, the habits of industry and regularity which the men will by this means acquire, the benefit resulting therefrom, will be great indeed;

deed; but we do not wish to confine ourselves merely to these branches of industry, as there are many others in which private soldiers may be employed (at their leisure hours, or when they are not upon duty) with equal advantage to themselves and the community. The greatest preservation against *vice* and *dissipation*, in every line of life, being employment; the more completely any man's time is occupied, the less will remain for acquiring habits of idleness or expence. Every private soldier ought therefore to be encouraged to work as much as possible, when not upon duty: and every liberty and indulgence granted for that purpose, compatible with the good of the service."

" This regulation, like that of regimental schools, is connected with the health of soldiers only in proportion as it promotes industry, detaches them from habits of idleness and expence, renders them sober and diligent, and affords them the means of living comfortably."

In

In treating the subject of this chapter as well as of some of the preceding, I am aware that an apology is necessary for having proposed what may be called "novelties and innovations." But I believe the good sense of my countrymen, and especially the well informed part of the British army, will not allow any antiquated or ill grounded prejudices to preclude the possibility of introducing a real improvement. The only motive I had in undertaking this publication, was a sincere desire to render myself useful: And I leave it to the judgment and experience of impartial men to determine what service I have done.

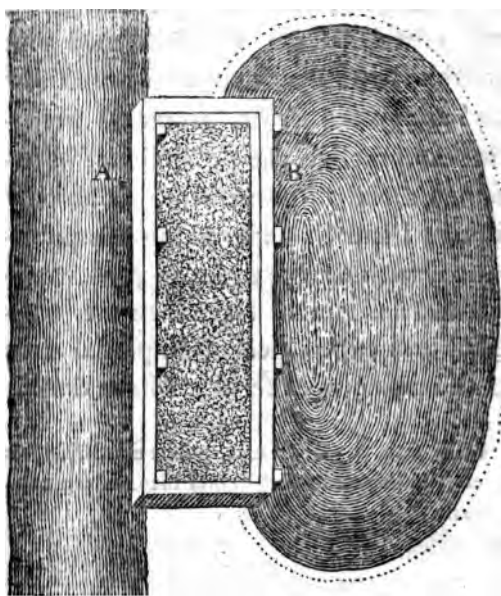
Mihi satis superque erit, publicæ utilitati, & præsertim Britannorum Civium incolunitati consecrasse.

THE END.

APPENDIX.

Mode of purifying a muddy Stream.

Referred to at page 34.



This sketch represents an easy mode of purifying the water of a lake, or a muddy river, for the use of an army encamped in its neighbourhood.

A. is the river, into the margin of which several strong wooden posts are to be firmly driven. To these, long planks, previously bored full of holes, are to be nailed; the lower one being sunk some way

way into the bed of the river. The same is to be again repeated at the distance of two feet or more; the intervening space being filled with ~~close~~ sand, or fine gravel previously washed, and rammed moderately tight. When this is done, a bason B. is to be dug of a proper magnitude; a foot or more of earth being left next the wooden frame.

clean

It is evident that the water in the river, from its natural propensity to find its level, will filter through the sand, and come clear into the bason. The vessel which contains the sand, should be wide in proportion to the muddiness of the stream; and several of these contrivances may be formed, according to the supply of water required.

In the

In the Press, and speedily will be published,
FOR J. JOHNSON, ST. PAUL'S CHURCH YARD,
AND OTHER BOOKSELLERS,

E S S A Y S

ON THE

VENEREAL DISEASE

AND ITS

CONCOMITANT AFFECTIONS,

ILLUSTRATED

BY A VARIETY OF CASES:

PART THE FIRST;

On the antivenereal effects of nitrous acid, oxygenated muriate of potash, and several analogous remedies, which have been lately proposed as substitutes for mercury in the cure of Syphilis.

By WILLIAM BLAIR, A. M.

**SURGEON OF THE LOCK HOSPITAL AND ASYLUM,
AND OF THE OLD FINSBURY DISPENSARY.**

